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ABSTRACT

The purpose of this study was to investigate and describe decision-making in Individually Guided Education (IGE) schools. Concepts from four selected conceptual frameworks--rational decision process, organizational structure, individual traits and values, and group interaction--were set forth as guidelines for observations. Data collected from three successful, diverse IGE schools included primary documents, transcripts of meetings, and semi-structured and unstructured interviews. Decision processes at each school were described within the framework of the four basic theoretical frameworks. All observed decisions were then compared and contrasted within and across schools in this same framework. A new model of decision-making emerged from the data. The model was used to examine the decision-making processes observed in the three schools, compared and contrasted with existing theories of decision-making, and some modifications of these theories were suggested. (Author/MIF)

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Technical Report No. 377

A DEFINITIONAL FIELD STUDY OF DECISION MAKING IN IGE/MUS-E SCHOOLS

by

Albert M. Holmquist

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Report from the Project on
Organization for Instruction and
Administrative Arrangements

Wisconsin Research and Development
Center for Cognitive Learning
The University of Wisconsin
Madison, Wisconsin

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WISCONSIN RESEARCH AND DEVELOPMENT CENTER FOR COGNITIVE LEARNING

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FUNDING

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ABSTRACT

The purpose of this study was to investigate and describe decision-making in IGE schools. Concepts from four selected conceptual frameworks--rational decision process, organizational structure, individual traits and values, and group interaction--were set forth as guidelines for observations. Specific questions addressed in the study were:

1. How well do existent conceptual models explain decision making in IGE schools?
2. Can a new model be developed which augments extant conceptual models of decision making?
3. What are the variables which define decisions making in IGE schools?
4. What are the interrelationships of the variables which define decision making in IGE schools?
5. What hypotheses can be generated from a new model?
6. How does the new model developed from the interrelationships of variables explain decision making in IGE schools?

Data were collected from three successful, diverse IGE schools. Data included primary documents, transcripts of IIC and unit meetings, and semi-structured and unstructured interviews. Each sentence in the data was severed and placed with as many of the initial concepts from each of the four theoretical approaches to decision making as it approximated and exemplified. As these referents grouped into conceptual areas, concepts were refined, redefined, and finally defined and related

to one another.

Decision processes at each school were described within the framework of the four basic theoretical frameworks. All observed decisions were then compared and contrasted within and across schools in this same framework.

A new model of decision making emerged from the data. Decision making in the IICs and unit meetings fell into four basic steps:

1. Problem articulation
2. Alternative posing
3. Alternative weighing
4. Choice

Decision making was defined as: a process, influenced by group size, individual experience, and group exhortation, wherein a problem is articulated, alternative solutions are posed and weighed, and a precipitate solution is chosen.

The model was used to examine the decision-making processes observed in the three schools. It was compared and contrasted with existing theories of decision making and some modifications of these theories were suggested.

Questions concerning the applicability of the model to certain decision content items, the amount of time spent at each step in the model and the existence of typical paths through the model were finally raised. Questions were posed by this model concerning the nature of the existence of unstated decision criteria, the absence of implementation and evaluation steps in the model, the ideal size for IICs and units, the appropriate degree of group pressure needed to assure participation, and the desirability of quantifying the steps in the model.

CHAPTER I

INTRODUCTION TO THE STUDY

A prime activity in educational institutions is making decisions. The Wisconsin Research and Development Center for Cognitive Learning has developed an alternative system of elementary schooling, Individually Guided Education (IGE). This alternative system of schooling which, includes decentralized decision making as one of its basic premises, is operational in over 2000 schools in 35 states.[1] Although a common sense rationale for this decision making premise is that greater involvement of personnel in decision making "causes" a higher quality of decisions or greater acceptance and implementation of decisions, no systematic studies of decision making in IGE schools have yet been conducted to substantiate or refute these claims. In addition, the existent body of decision theory has not been developed from systematic phenomenologic research; instead, it has been intuited.[2]

This study represents an initial step to close the gap between ungrounded theory and ongoing practice. Three IGE schools, successful

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[1] J. E. Walter, B. T. Gardner, and H. MacDermot, The Implementation of Individually Guided Education: 1973-1974 (Madison, WI: University of Wisconsin Research and Development Center for Cognitive Learning, 1975), p. 18.

[2] Phi Delta Kappa National Study Committee on Evaluation, Educational Evaluation and Decision Making (Itasca, IL: F. E. Peacock, 1971), p. 331.

by reputation, were selected for this field study which used non-participant observation, semi-structured interviews, and primary source document analysis to examine decision-making. Variables, initially defined from the literature and subsequently redefined over time through analysis of behavioral observations made in these schools, were developed into a model of decision making. This model may provide a theoretical basis for further empirical testing, which, it is hoped, will be used to examine the premises of IGE. In this chapter are presented: (1) a description of the IGE school, (2) a review of the related literature, (3) the statement of the problem and questions to be answered, and (4) an overview of the study.

The IGE School

A system of Individually Guided Education (IGE) has been developed by the Wisconsin Research and Development Center for Cognitive Learning and cooperating local educational agencies.[3] IGE is composed of seven basic components (Figure 1): (1) an organization for instruction, a related administrative organization at the building level, and another arrangement at the central office level; (2) a model of instructional programing for the individual student; (3) curriculum materials, related statements of instructional objectives, and criterion-referenced tests and observation schedules; (4) a model for developing measurement tools and evaluation procedures; (5) a program of home-school community

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[3]Herbert J. Klausmeier, et al., Individually Guided Education and the Multiunit Elementary School (Madison, Wisconsin: Wisconsin Research and Development Center for Cognitive Learning, 1971).

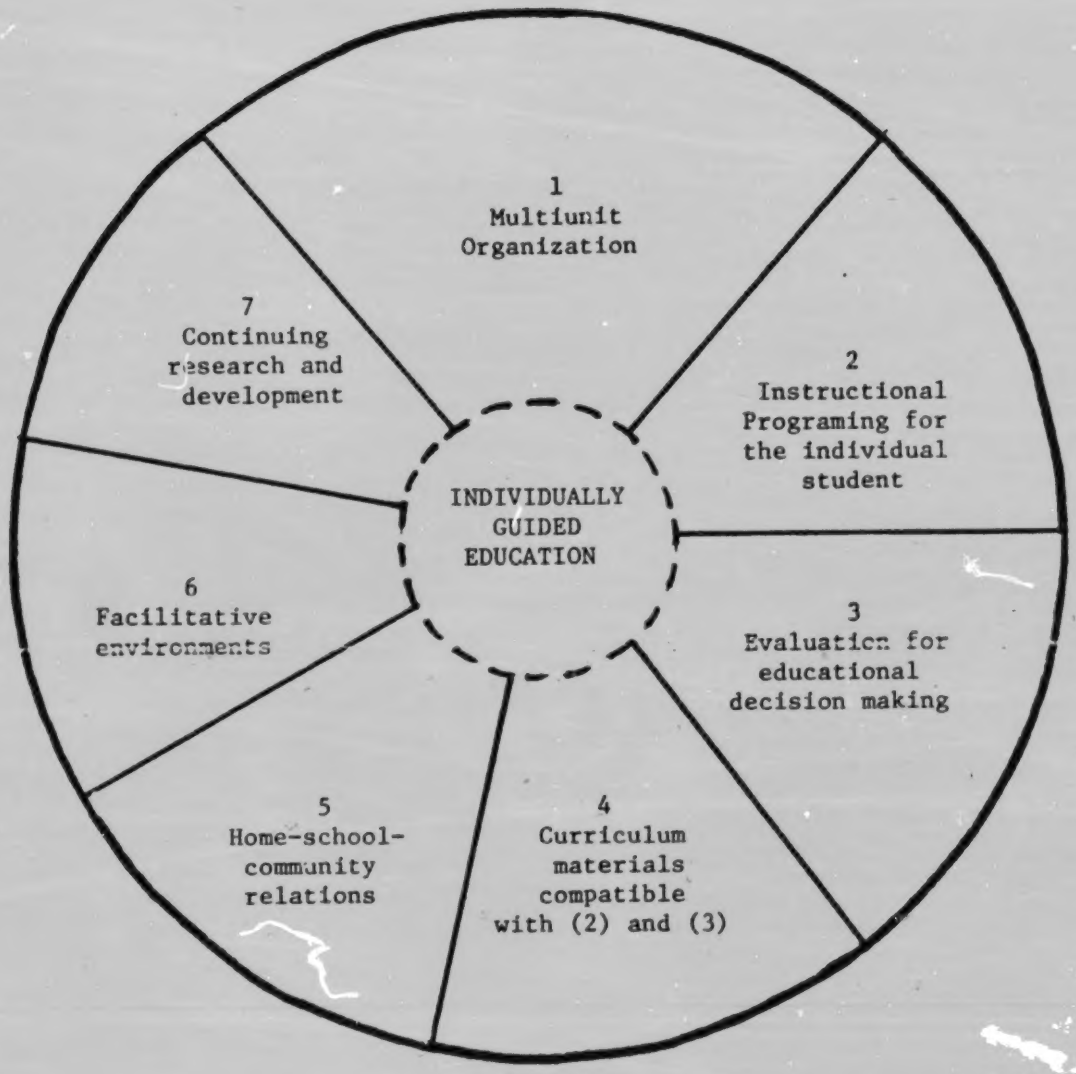

Figure 1: Components of Individually Guided Education.

Source: Based on Klausmeier, H. J., Quilling, M. R., Sorenson, J. S., Way, R. S., and Glasrud, G. R. Individually Guided Education and the Multiunit School: Guidelines for Implementation. (Madison: Wisconsin Research and Development Center for Cognitive Learning, 1971), Ch. 2.

that reinforces the school's efforts by generating the interest and encouragement of parents and other adults whose attitudes influence pupil motivation and learning; (6) facilitative environments in school buildings, school system central offices, state education agencies, and teacher education institutions; and (7) continuing research and development to generate knowledge and to produce tested materials and procedures.[4]

The multiunit school is the organizational-administrative structure for Individually Guided Education at the elementary school level. The elementary school model has three hierarchical levels: The Instructional and Research Unit (I & R Unit), the Instructional Improvement Committee (IIC), and the Systemwide Program Committee (SPC). Staffed by a unit leader or lead teacher, two or three staff teachers, one first-year or resident teacher, one instructional secretary and one intern, the I & R Unit replaces the age-graded self-contained classroom. Each unit serves 100-150 pupils whose age range covers a three to four year span. Instructional programs for these children are planned and evaluated at unit meetings occurring at least once a week.

The IIC is composed of the unit leaders and the building principal. It deals primarily with the planning and coordinating functions related to instruction at the school building level. Specifically, the IIC takes primary initiative for:

1) stating the educational objectives and outling the educational program for the entire school building;

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[4] Ibid., pp. 17-18.

2) interpreting and implementing systemwide and statewide policies that affect the educational program of the building;

3) coordinating the activities of the I & R Units to achieve continuity in all curriculum areas; and

4) arranging for the use of facilities, time, material, etc., that the units do not manage independently.[5]

The SPC, chaired by the superintendent or his designee, includes consultants, other central office staff, representative principals, unit leaders, and teachers, and deals with:

1) identifying the functions to be performed in each IGE school of the district;

2) recruiting personnel for each IGE school and arranging for their inservice education;

3) providing instructional materials; and

4) disseminating relevant information within the district and community.[6]

I & R Unit, IIC and SPC member compositions are shown in Figure 2, a prototypic organizational chart for an IGE school of 600 pupils.

The overlapping memberships between the I & R Unit, the IIC, and the SPC are designed to meet one of the objectives of IGE, that of providing for ". . . educational and instructional decision making at appropriate levels."[7]

> Organizational structures with overlapping memberships are designed to encourage decision-making at an appropriate level of the school's system . . . some decisions are made

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[5] Ibid., p. 22.

[6] Ibid.

[7] Ibid., p. 17.

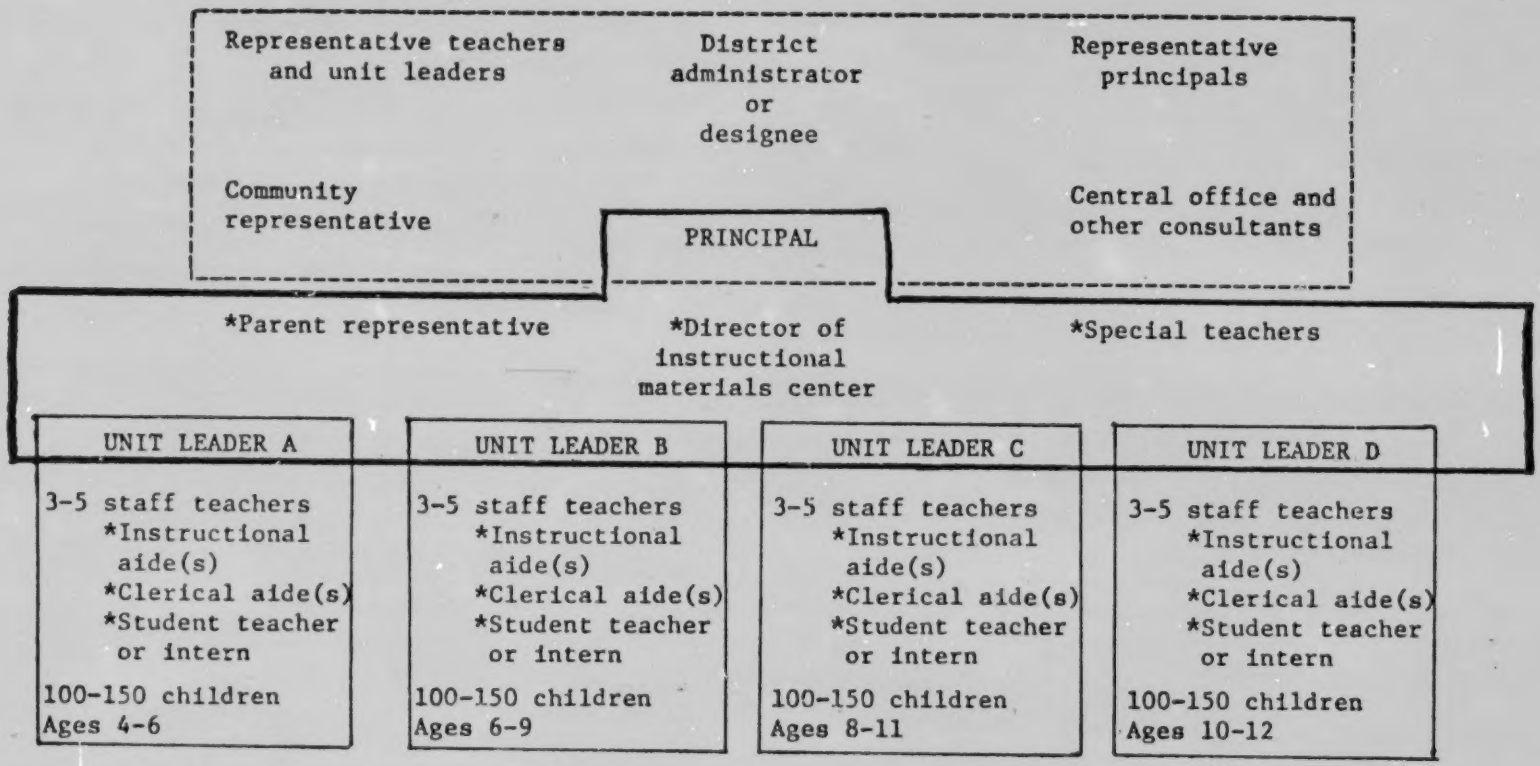

Figure 2: Multiunit organization of an IGE School of 400-600 students.

Source: Adapted from: Herbert J. Klausmeier, Richard G. Morrow, and James E. Wa.ter, Individually Guided Education in the Multiunit School (Madison: Wisconsin Research and Development Center for Cognitive Learning, 1968).

> at the central office level by the SPC, others at the building level by the IIC, and still others are made with each child by the staff of the unit. The IIC and the I & R units within each building, however, are the key decision-making units . . .[8]

This study focused on decisions at each of these levels and subsequently decided by one or the other. The following literature review laid a foundation for observation of the actual decision behavior.

Review of the Literature

Yukl posed the dilemma of providing a comprehensive literature review by stating, "In spite of the obvious importance of decision making as an organizational process, there has been only a limited amount of empirical research on the subject."[9] Decision-making literature of both a theoretical and an empirical nature which relates directly to educational organizations, or which has the potential for aiding one in understanding decision making in educational organizations, is presented in four arbitrary sections: rational process, organizational structure, individual traits and values, and group interaction. In each of the sections, an attempt is made to identify initial constructs which were refined by the study into the final concept variables which compose the resultant model of decision making.

The approaches are neither mutually exhaustive nor mutually exclusive. First, the decision-making process suggested for the IGE school

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[8] Ibid., p. 17

[9] Gary Yukl, "Toward a Behavioral Theory of Leadership," Organizational Behavior and Human Performance, 6 (1971), p. 415.

is described. Then, each of the four approaches to decision making is discussed, each section concluding with a review of related IGE literature.

Decision making may be viewed from two basic viewpoints: from a rational and empirical perspective based on objective causality, or from an intuitive perspective based on personal, affective observed behavior interpreted through experience.[10] Barnard placed decisions into typologies reflecting this difference, calling them organizational decisions and personal decisions.[11] The rational perspective includes decision making as a central administrative and organizational process and/or as a function of organizational structure. The personal perspective includes decision making as a function of individual traits and values and/or as a function of group interaction patterns.

Within the rational perspective, decision making has been viewed as a central process of administration and as a function of an organization's structure. The following two sections, "Rational Process" and "Organizational Structure" discuss decision making from this perspective.

The Rational Process Perspective

Decision making initially focused on the actual act of choice,

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[10] Severyn T. Bruyn, "The New Empiricists: The Participant Observer and Phenomenologist" in William J. Filstead, ed., Qualitative Methodology: Firsthand Involvement with the Social World (Chicago: Markham Publishing Company, 1970), pp. 283-287.

[11] Chester I. Barnard, The Function of the Executive (Cambridge: Harvard University Press, 1938), p. 188.

with types of choices placed in categories. Barnard's[12] typology of intermediate, appellate, and creative decisions is an example of this emphasis, as is Cartwright and Festinger's[13] concept of valences. McCamy[14] viewed all administration as a process, stating: "The reaching of a decision is the core of administration, all the other attributes of the administrative process being dependent on, interwoven with, and existent for the making of decisions." Gregg[15] added emphasis to the process perspective stating, "Decision making is at the very heart of the administrative process." McCamy,[16] Simon,[17] and Tannebaum[18] expanded the concept of decision making from the single act of choice to a process, describing and delimiting the conditions and activities involved in embodying the administrative process. Using a problem-solving approach,

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[12] Ibid., pp. 190-191.

[13] Darwin Cartwright and Leon Festinger, "Quantitative Theory of Decisions," Psychological Review, L (November, 1943), pp. 595-621.

[14] James L. McCamy, "An Analysis of the Process of Decision Making," Public Administration Review, 7 (Winter, 1947), pp. 41-48.

[15] Russell T. Gregg, "The Administrative Process, " in Ronald F. Campbell and Russell T. Gregg, eds., Administrative Behavior in Education (New York: Harper and Brothers, 1957) p. 275.

[16] McCamy, op. cit., p. 41.

[17] Herbert A. Simon, Administrative Behavior (New York: Macmillan, 1950).

[18] Robert Tannebaum, "Managerial Decision-making," Journal of Business, XXIII (January, 1950), pp. 33-37.

Griffiths[19] described decision making as a six-step process:

1) Recognize, define and limit the problem
2) Analyze and evaluate the problem
3) Establish criteria of the solution
4) Collect data
5) Formulate alternatives
6) Implement the alternative chosen

These six steps have been repeatedly expanded, condensed, amplified, and otherwise confounded with little systematic observational basis. Dill[20] reduced Griffiths' six steps to three:

1) Define goals and tasks and assign priorities for their completion

2) Find or invent alternatives and choose one for adoption, or postpone a choice

3) Clarify the meaning of a commitment, elaborate new tasks and motivate the people who will carry out the task

and added a new step:

4) Evaluate the results.

Alkin[21] expanded the evaluation step into two components:

1) Progress evaluation
2) Summary evaluation

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[19]Daniel E. Griffiths, "Administration as Decision-making," in Andrew Halpin, ed., Administrative Theory in Education (Chicago: University of Chicago Midwest Administration Center, 1958), pp. 132-133.

[20]William R. Dill, "Decision Making," in The Sixty-third Yearbook of the National Society for the Study of Education (Chicago: The University of Chicago Press, 1964), p. 201.

[21]Marvin C. Alkin, "Evaluation Theory Development," Evaluation Comment, Center for the Study of Evaluation, University of California, Los Angeles, 2 (October, 1969).

The National Education Association[22] expanded Griffiths' initial steps, intuiting decision making in seven steps:

1) Informal problem identification
2) Information gathering
3) Problem identification
4) Identification of alternatives for action
5) Alternative projection
6) Decision selection
7) Decision evaluation

Bowles[23] condensed decision making into four sequential steps:

1) Initiation
2) Information flow
3) Accommodation
4) Legalization

Maier,[24] focusing on the "creative" decision from Barnard's typology, managed to reduce the number of ideas to two:

1) Idea getting
2) Idea evaluation

Other theorists have expounded on the steps in the decision-making process. O'Shaughnessy[25] elaborated on the effects of the manner of

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[22]William L. Pharis, Lloyd E. Robison, and John C. Walden, Decision Making and Schools for the 70s (Washington, D.C.: National Education Association Center for the Study of Instruction, 1970), pp. 5-9.

[23]B. Dean Bowles, Educational Pressure Groups in the Legislative Process in California," unpublished doctoral dissertation (Claremont Graduate School, Claremont, California, 1966).

[24]Norman R. F. Maier, "What Makes a Problem Difficult?" in Norman R. F. Maier, Problem Solving and Creativity (Belmont, CA: Brooks/Cole Publishing Co., 1970), pp. 178-189.

[25]John O'Shaughnessy, Inquiry and Decision (London: George Allen and Unwin, 1972).

identification and explanation of a problem, as well as on the type of information needed for each phase of the decision making process. Whyte[26] found providing decision makers with inadequate information increased organizational conflict.

Conceptually, the steps of the decision process need not be considered mutually exclusive, exhaustive, sequential, or non-interactive. O'Shaughnessy[27] described the interactive feedback effects of each of the eight process steps he identified in decision making. The Phi Delta Kappa Committee on Evaluation[28] conceptualized decision making in four steps:

1) Becoming aware a decision is needed
2) Designing the decision situation
3) Choosing among alternatives
4) Acting upon the chosen alternative.

These four steps were posited as being both cyclical and interactive in nature.[29]

Decisions within and across content areas can also be interdependent[30] as well as interlocking. This confounding of steps may produce problems of nesting, including suboptimization and development of

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[26]William F. Whyte, "Social Structure of the Whole Organization: The Restaurant," American Journal of Sociology, 54 (January, 1959), pp. 302-308.

[27]O'Shaughnessy, op. cit.

[28]Phi Delta Kappa National Study Committees on Evaluation, op. cit., p. 50.

[29]Ibid., p. 83.

[30]Ibid., p. 92.

constraints.[31] Suboptimization occurs during the problem identification stage when the problem being identified is delimited to a degree deleterious to the solution of a larger problem. Through chaining, prior decisions may also determine constraints on decisions being actively considered.

The interactive nature of the process perspective has served as a basis for model building. Braybrooke and Lindblom[32] developed a typology of decision-making settings from a four-square matrix based on axes of the amount of decision makers' information grasp and the degree of change involved. They concluded that the only quadrant providing utility in interpreting and aiding the decision-making process required a low information grasp and demanded only a small degree of change.

The Phi Delta Kappa Committee on Evaluation[33] matrixed the four Braybrooke and Lindblom setting typologies with four types of decision content specific to evaluation, but then proceeded to debunk most of their model through questioning its validity.

Lipham[34] defined decision making as:

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[31] Ibid., pp. 87-93.

[32] David Braybrooke and Charles E. Lindblom, A Strategy of Decision (New York: Free Press, 1963), pp. 61-79.

[33] Phi Delta Kappa National Study Committee on Evaluation, op. cit., pp. 49-105.

[34] James M. Lipham, "Improving the Decision-making Skills of the Principal," in Jack A. Culbertson, Curtis Henson, and Ruel Morrison, eds., Performance Objectives for School Principals (Berkely, CA: McCutchan, 1974).

> A process wherein an awareness of a problematic state of a system, influenced by information and values, is reduced to competing alternatives, among which a choice is made, based upon estimated outcome states of the system.

In an adaptation of Kaufman,[35] he modeled this definition into a two-stage, five-step systems design (Figure 3). The first stage, systems analysis, included two steps:

1) Identifying the nature of the problem, and
2) Determining alternatives;

and the second stage, systems synthesis, included three more steps:

3) Choosing a solution strategy,
4) Implementing the solution strategy, and
5) Determining effectiveness.

These five stages comprise the decision behavior dimension of a three-dimensional model which includes the type of decision content and the person and degree of his decision involvement dimensions (Figure 4). Each cell in this model provides a potential focus of observational study. Lipham[36] further described four modes whereby decision theory and decision research may be utilized: the developmental, assessment, interactive, and structural change modes. In a further elaboration on the decision-making model (Figure 5), he also considered the amount, form and flow of information to the decision maker; the effect of values

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[35]Roger A. Kaufman, "System Approaches to Education: Discussion and Attempted Integration," in Philip K. Piele, Terry L. Eidell, and Stuart G. Smith, eds., Social and Technological Change: Implications for Education (Eugene, Oregon, Center for Advanced Study of Educational Administration, University of Oregon, 1970), pp. 143 and 168.

[36]Lipham, op. cit.

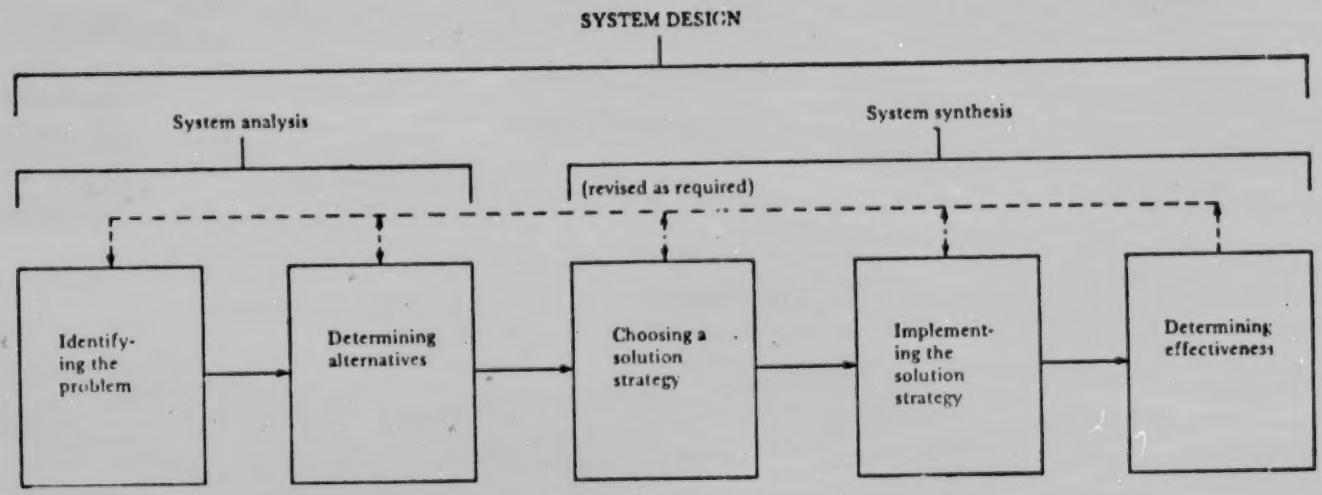

Figure 3: Model of Decision Making in Terms of System Analysis and System Synthesis for the Improvement of Education.

Source: Adapted from: Roger A. Kaufman, "System Approaches to Education; Discussion and Attempted Integration," in PHilip K. Piele, Terry L. Eidell, and Stuart C. Smith, eds., Social and Technological Change: Implications for Education, (Eugene, Oregon: Center for Advanced Study of Educational Administration, University of Oregon, 1970), pp. 143 and 168.

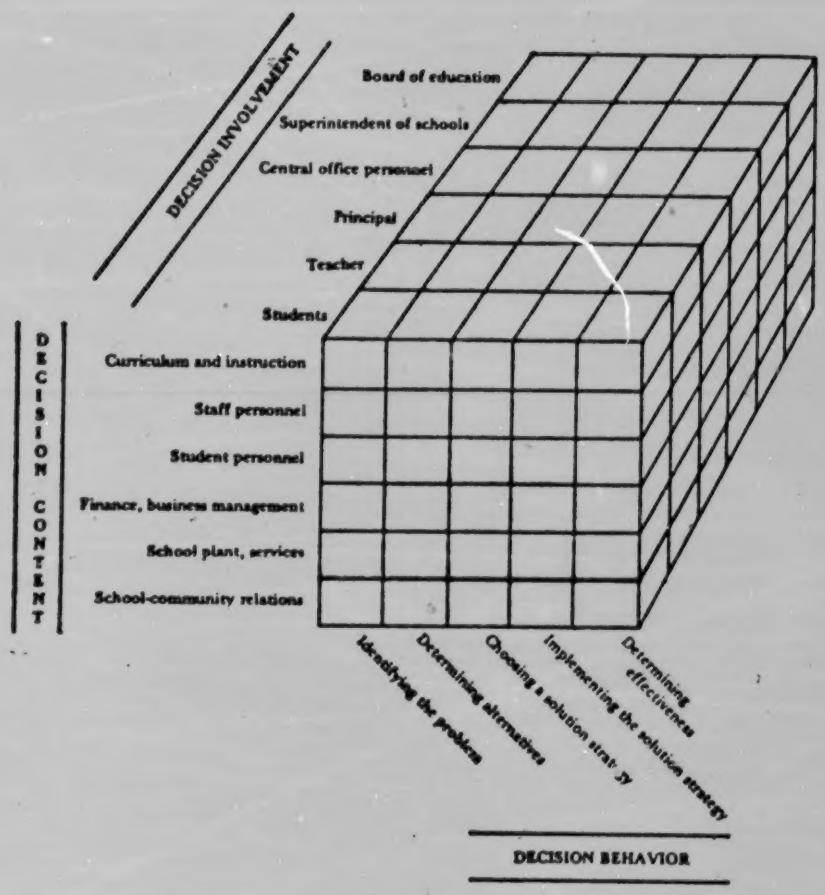

Figure 4: Three Dimensions of Decision Making

Source: James M. Lipham, "Making Effective Decisions," in Jack A. Culbertson, Curtis Henson, and Ruel Morrison, eds., Performance Objectives for School Principals (Berkely, CA: McCutchan, 1974) p. 106.

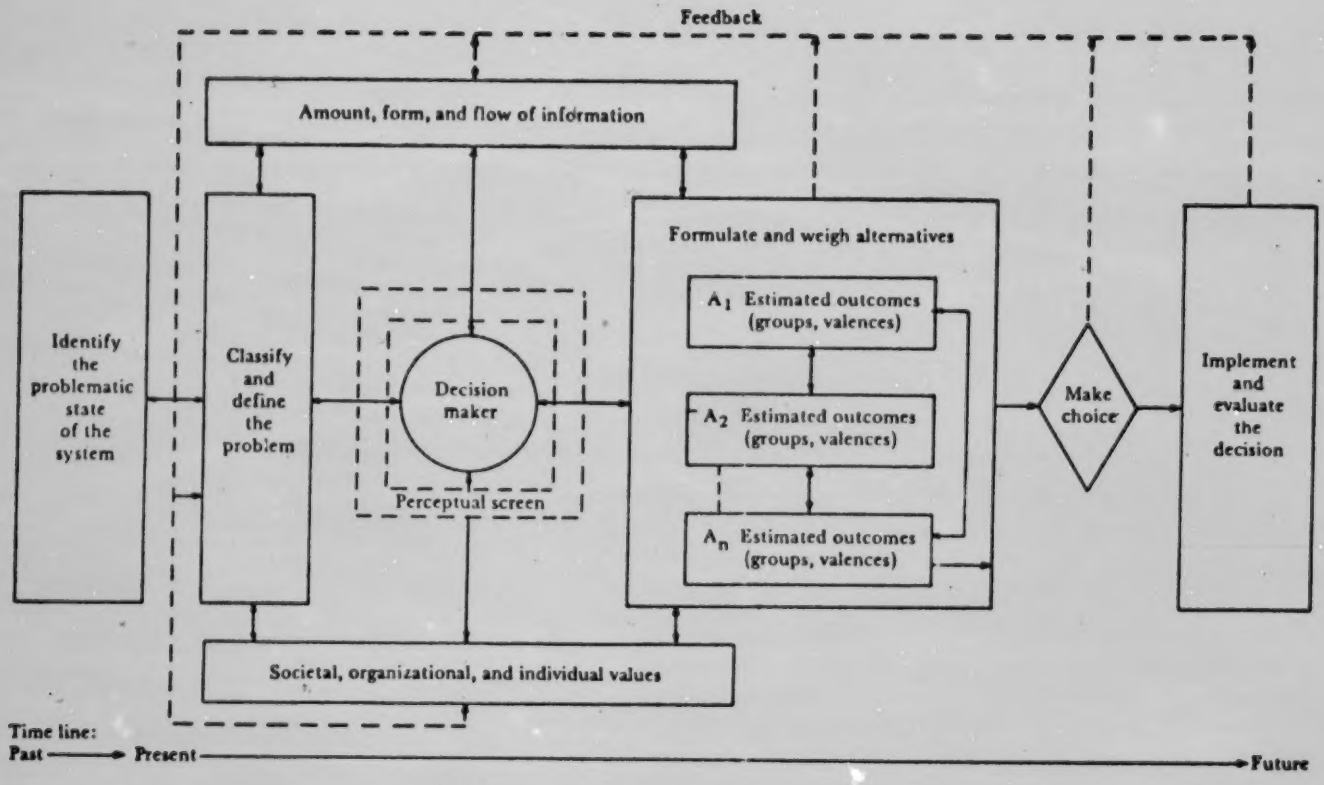

Figure 5: Model of the Decision-Making Process

Source: James M. Lipham, "Making Effective Decisions," in Jack A. Culbertson, Curtis Henson, and Rod Morrison, eds., Performance Objectives for School Principals (Berkely, CA: McCutchan, 1974), p. 88.

on the decision maker and on the formulation and weighing of decision alternatives; and the perceptual screen of the decision maker including such personal variables as intelligence, creativity, need-dispositions, abilities, and even biological states of persons involved in the process. Although reference to this model is not specific in the remaining sections of the literature review, it represents a recent attempt to intuit an integrated model of some major variables involved in decision making. This model is presently being utilized by Wright[37] to develop instrumentation to measure decision structure and decision involvement. For potent decision content areas, the organizational level which has primary responsibility for each decision will be juxtaposed with each step in Lipham's[38] decision process (which conceptualized decision structure and degree of involvement of each organizational level) to define decision involvement. Hopefully, it will then be possible to quantify real and ideal decision structure and decision involvement.

The Organizational Structure Perspective

Decision making may be viewed as a function of the organizational structure. Hage's[39] axiomatic theory, drawn from the work of Weber,

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[37]Kenneth W. Wright, "Development of an Instrument to Measure Real and Ideal Decision Structure and Real and Ideal Decision Involvement in Individually Guided Education/Multiunit Elementary Schools," Doctoral Dissertation Proposal, University of Wisconsin, 1974.

[38]Lipham, op. cit.

[39]Jerald Hage, "An Axiomatic Theory of Organizations," Administrative Science Quarterly, 10 (1965), pp. 289-320.

Barnard and Thompson,[40] describes eight organizational variables: four means and four ends. Three of his means variables, centralization, formalization, and stratification relate to the decision processes elaborated in the previous section. Gramenz[41] suggested,

> Hage's axiomatic theory of organization be reexamined and/or reconceptualized before being used in research pertaining to education institutions.

This section of the literature review will examine findings which may enlighten understanding of the decision process both within and without educational institutions, including IGE. The concepts of centralization, formalization, and stratification will be explored, with primary emphasis on centralization, a variable the IGE school is designed to minimize. The studies cited may or may not directly relate to decision making in IGE. The absence of non-intuited studies and the lack of commonality of definitions of basic variables across these studies may minimize their utility for initial variable definition, but may maximize their utility for theory design, an objective of this study. Initial operational definitions of concepts which served as a basis for structuring initial observations and for interpreting these observations are

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[40]Max Weber, The Theory of Social and Economic Organization, trans. by M. Henderson and Talcott Parsons (Glencoe, IL: The Free Press, 1947), pp. 320-340; Hans Gerth and C. Wright Mills, From Max Weber: Essays in Sociology (New York: Oxford University Press, 1958), pp. 196-244; Chester I. Barnard, "Functions and Pathology of Statue Systems in Formal Organizations," in William F. Whyte, ed., Industry and Society (New York: McGraw-Hill, 1964), pp. 46-83; Victor A. Thompson, Modern Organization (New York: Alfred A. Knopf, 1961), pp. 3-113.

[41]Gary W. Gramenz, "Relationship of Principal Leader Behavior and Organizational Structure of the IGE/MUS-E to I and R Unit Effectiveness," Unpublished Doctoral Dissertation, University of Wisconsin, 1974.

set forth in the next chapter.

Centralization. Role expectations for decision making may be arranged in a hierarchical fashion, centralized (with the locus of decision at higher administrative levels) or decentralized (with the locus of decision delegated to lower levels). Fayol[42] viewed the continuum from the subordinate level, with increased importance of subordinates indicating decentralization and decreased importance of subordinates indicating centralization. Allen[43] saw complete centralization resulting in administrative strangulation and complete decentralization resulting in chaos. Albers[44] saw complete decentralization as absurd and eliminating the need for administration. Simon[45] raised the question of the desirable degree of centralization and decentralization. Urging decentralization of decision making, Coch and French,[46] Lewin,[47] and Lippitt[48] believed that

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[42]Henri Fayol, General and Industrial Management (London: Sir Isaac Pitman and Sons, 1949).

[43]Louis Allen, Management and Organizations (New York: McGraw Hill, 1958).

[44]Henry H. Albers, Organized Executive Action (New York: John Wiley and Sons, 1961).

[45]Herbert A. Simon, The New Science of Management Decisions (New York: Harper and Brothers, 1960).

[46]Lester Coch and John R. P. French, Jr., "Overcoming Resistance to Change," Human Relations, I (1948), pp. 512-532.

[47]Kurt Lewin, "Group Decisions and Social Change," Readings in Social Psychology, ed. Guy Swanson (New York: Holt and Company, 1952), pp. 459-493.

[48]Ronald Lippitt and Ralph K. White, Autocracy and Democracy (New York: Harper and Brothers, 1960).

the person affected by a decision should participate fully in the decision process. Gregg[49] believed this involvement would enhance the quality of the decisions. Marquis, Guetzkow and Heynes[50] found that a sense of participation in decision making also increases the satisfaction with the decisions made. Sharma[51] found teachers' expectation of and participation in the decision process increased their general satisfaction. Lowin's[52] participative decision making model suggested that increased decentralization may contribute to motive satisfaction of managers and subordinates and to organizational goal attainment. Lawrence and Smith,[53]

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[49]Gregg, op. cit., pp. 278-280.

[50]D. G. Marquis, H. Gretzkow, and R. W. Heynes, "A Social Psychological Study of the Decision-Making Conference," in H. Gretzkow, ed., Groups, Leadership and Man: Research in Human Relations (Pittsburgh: Carnegie Press, 1951), pp. 55-67.

[51]Chiranji Lal Sharma, "Who Should Make Decisions," Administrator's Notebook (April, 1955), p. 4.

[52]Aaron Lowin, "Participative Decision Making: A Model, Literature, Critique, and Prescriptions for Research," Organizational Behavior and Human Performance, 3 (1968), pp. 68-106.

[53]Lois C. Lawrence and Patricia C. Smith, "Group Decision and Employee Participation," Journal of Applied Psychology, 39 (1955), pp. 334-337.

and Bavelas and Strauss[54] found decentralization of production goal setting did increase productivity.

Dale's[55] four criteria to determine the nature and extent of decentralization, 1) frequency, 2) importance, 3) number of affected organizational functions, and 4) amount of necessary superordinate checking of the decisions of subordinate levels; and Hage's[56] axiomatic theory, which includes centralization as one of the four structural variables of organizations, have made quantifiable research possible in the structural area. For example, Bavelas[57] found that the more centralized the decision structure of groups, the better will be the group's performance with regard to speed, quality, and efficiency. Hage and Aiken[58] reported a low degree of centralization (as reflected by a high degree of participation in decision making) was strongly correlated to a high degree of complexity in health and welfare agencies. While

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[54]A. Bavelas and G. Strauss, "Group Dynamics and Intergroup Relations," in W. G. Bennis, K. D. Benne, and R. Chin, eds., The Planning of Change (New York: Holt, 1961), pp. 587-591.

[55]Ernest Dale, Planning and Developing the Company Organization Structure, American Management Association Research Report #20, 1952, p. 107.

[56]Hage, op. cit.

[57]Alex Bavelas, "Communication Patterns in Task-Oriented Groups," in Richard J. Ofshe, ed., Interpersonal Behavior in Small Groups (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1973).

[58]Jerald Hage and Michael Aiken, "Relationship of Centralization to Other Structural Properties," Administrative Science Quarterly, 12 (June, 1967) pp. 72-92.

there is a plethora of this type of correlational research exploring Hage's axioms, little of it explores centralization in educational institutions.

Pellegrin,[59] in an investigation of classroom decisions, found multiunit schools to be more decentralized than non-multiunit schools. Loose,[60] on the other hand, reported 60 percent of the decisions in IIC's were made by principals--an indication of high centralization. Loose further found that curricular decisions which dealt with grouping students and curriculum selection and evaluation received less attention than management decisions which dealt with scheduling and district policies. This may indicate that a closer look at potency of decision content may be a critical factor in defining decision making. Herrick[61] found a positive relationship between low centralization and high teacher motivation. Walter,[62] however, reported no significant relationship between centralization and adaptiveness as measured by student activities

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[59]Ronald L. Pellegrin, "Some Organizational Characteristics of Multiunit Schools," Working Paper #22 (Madison, Wisconsin, Wisconsin Research and Development Center for Cognitive Learning, 1969), p. 14.

[60]Caroline Loose, "Decision-making Patterns and Roles in the IIC," Unpublished Doctoral Dissertation, University of Wisconsin-Milwaukee, 1973.

[61]H. Scott Herrick, "The Relationship of Organizational Structure to Teacher Motivation in Traditional and Multiunit Elementary Schools," Unpublished Doctoral Dissertation, University of Wisconsin-Madison, 1974.

[62]James Walter, "The Relationship of Organizational Structure to Adaptiveness in Elementary Schools," Unpublished Doctoral Dissertation, University of Wisconsin, 1973.

and individualization. Gramenz,[63] although calling for a reworking of Hage's axiomatic theory, did find that a moderate degree of centralization of decision making was not deleterious to unit operations.

Formalization. Another of the basic tenets of IGE is the development of specific role descriptions.[64] These are ideally to be defined by the actual role incumbents during the introduction of the IGE system into their school.[65] The extent of the development of these roles and the latitude tolerated within the rules defining each role constitute the degree of formalization within the organization. While these norms may not be explicitly written, they may be implicity understood.[66]

Haas and Collen,[67] in a study of a university teaching staff, found the degree of formalization to be significantly related to the frequency of actual decisions made regarding hiring procedures, evaluation of performers, and handling of unsatisfactory faculty members. While formalization may, therefore, encourage participation in decision making,

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[63]Gramenz, op. cit., p. 107.

[64]Klausmeier, et al., pp. 31-49.

[65]Nancy A. Evers, M. Lynn Karges, and Walter Krupa, "IGE Staff Development: Needs and Specifications," Working Paper #131 (Madison, Wisconsin: Wisconsin Research and Development Center for Cognitive Learning, 1974).

[66]James L. Price, Handbook of Organizational Measurement (Lexington, Massachusetts: D. C. Heath and Company, 1972), pp. 150-155.

[67]Eugene Haas and Linda Collen, "Administrative Practices in University Departments," Administrative Science Quarterly, 8 (June, 1963), pp. 44-60.

Hall[68] found that for professionals, ". . . the greater the degree of formalization in the organization, the greater the likelihood of alienation from work." Again, although the literature examining the relationship of the variable of formalization to the other variables of Hage's axioms is voluminous, no direct examples of close parallels to school-related or decision-making activities were available. The IGE related literature employing formalization as a variable includes Walter's[69] finding of no relationship between formalization and adaptiveness, Walter's[70] and Herrick's[71] finding of no differences between IGE and non-IGE schools in the degree of formalization, and Herrick's[72] finding that formalization was not a significant predictor of teacher motivation.

Stratification. The creation of the new role of unit leader in IGE, by its very existence, provides a change in the number and nature of status positions from non-IGE schools with regard to status and

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[68]Richard H. Hall, Organizations: Structure and Process (Englewood Cliffs: Prentice Hall, 1972), p. 187.

[69]Walter, op. cit., p. 109.

[70]Ibid., pp. 112-114.

[71]Herrick, op. cit., p. ix.

[72]Ibid., p. 88

salary. The unit leader role is furthermore the only role involved in both the school-wide and unit level of decision making in the present study.

Barnard[73] maintained that status systems can generate "dis-organizing forces," including an exaggeration of administration to the detriment of morale. If the primary activity of administration is decision making, there must be some type of relationship between decision making and morale. Information flow necessary to decision processes may be affected by an increase in stratification. Burns and Stalker[74] found preoccupation with status led to withholding of information from superiors. In a Navy laboratory, Shepherd and Brown[75] found that stratification affected the rates of interaction. Blau and Scott[76] found that status differences tended to reduce criticism of the ideas of superordinates. Herrick,[77] in a comparative study of IGE and non-IGE schools, reported a significant negative relationship between the degree of stratification

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[73]Chester I. Barnard, "Function and Pathology of Status Systems in Formal Organizations," in Carver and Sergiovanni, eds., Organizations and Human Behavior: Focus on Schools (New York: McGraw-Hill, 1969), pp. 52-57.

[74]Tom Burns and G. M. Stalker, The Management of Innovation (London: Tavistock Publications, 1961), pp. 148-154.

[75]Clovis Shepherd and Paula Brown, "Status, Prestige, and Esteem in a Research Organization," Administrative Science Quarterly, 1 (1956), pp. 208-224.

[76]Peter M. Blau and W. Richard Scott, Formal Organizations (San Francisco: Chandler, 1962), pp. 122-125.

[77]Herrick, op. cit., p. 88.

and teacher involvement in decision making as well as overall teacher motivation. Gramenz,[78] however, found that a moderate degree of stratification is not deleterious to unit operations. Pellegrin[79] recorded a significant change in communication patterns between IGE and non-IGE schools, although the nature of the actual communications was not necessarily related to the decision-making process.

While each of the organizational structure variables described in this section could be further related to each other and to a multitude of other variables throughout this entire review of the literature, the lack of common operational definitions across studies and across subject groups makes any conclusions spurious at best, and perhaps confounding to the maintenance of open inquiry demanded by a field study. The constructs provided by these approaches, however, are useful initial concepts for structuring initial observations.

In addition to viewing decision making from a purely rational process and/or organizational structure perspective, personality factors, values, perceptions, and mode of interaction offer viable constructs with which to begin the study. Decision making may even have an irrational component.

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[78] Gramenz, op. cit., p. 109.

[79] Pellegrin, op. cit.

Gore[80] challenged the assumption that decisions made in an open forum are based entirely upon rationality. Banfield[81] believed that the multiple, complex, and sometimes conflicting ends of a public organization, such as a school, make rationality less likely in decision making than in smaller, simpler, and more directive private organizations. Lipham[82] also noted that the value orientations of those involved in decision making may cause a decision to be viewed as non-rational, irrational, or even indefensible by others who hold different value orientations. In addition to the decision maker's values, he described other variables such as intelligence, creativity, abilities, biological states, training, and personal experiences which constitute a perceptual screen through which the decision maker conceptualizes the world.[83] Such individual traits impinge directly on all aspects of decision making.

Barnard[84] defined decision as the specific combination, by volitional action, of all the physical, biological, personal and social factors of a situation. Organizations are peopled with individuals having

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[80]William J. Gore, "Decision Making Research: Some Prospects and Limitations," in Sidney Mailick and Edward H. Van Ness, eds., Concepts and Issues in Administrative Behavior (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1962), p. 51.

[81]Edward C. Banfield, "Ends and Means in Planning," in Mailick, ed., op. cit.

[82]Lipham, op. cit.

[83]Ibid.

[84]Chester I. Barnard, The Functions of the Executive (Cambridge, Mass.: Harvard University Press, 1938), p. 286.

needs for prestige, security and growth, and possessing abilities of insight, wisdom, and intuitive understanding.[85] Decision makers' individual needs and values thus contribute to decision making. McCamy's[86] outline for examination of decision making noted above was comprised of these personal factors and of external influences reflected through the persons who participate in decision making. He defined decision making as ". . . a process of people acting upon each other."[87] The following section discusses decision making from the "Individual Traits and Values Perspective," which completes the literature review.

Decision making may also be viewed from a "Group Interaction Perspective." An examination of group decision making includes a description of properties by which any group may be described, a look at the nature and degree of interaction between and among group members, and a broader view of group decision making through the processes of policy formation.

The Individual Traits and Values Perspective

Decision making may be viewed from the perspective of its individual participants. Each individual involved in decision making is insulated by his own personality's perceptual screen. This screen influences, and

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[85] Gore, op. cit.

[86] McCamy, op. cit., p. 46.

[87] Ibid.

is influenced by, the variables which comprise this screen, including values, creativity, needs, intelligence and abilities, age, dispositions, sex, and training and previous experience.

Societal, organizational, and individual values all have an impact on decision making. Values are individually held, but can be related to organizations, organizational processes, and society generally. Kluckhohn's[88] definition of values embodies this relationship: "a conception, explicit or implicit, distinctive of an individual or characteristic of a group, of the desirable which influences from the selection from available modes, means and ends of action."

Simon[89] first related values to decisions by factoring decision making simply into two main elements, values and facts. Dahl,[90] in examining the decision process, assigned values to the consequences of each alternative as influencing the decision. This influence conditioned the screening of possible alternatives by estimating the extent to which each possible alternative is compatible to the value systems of the individuals involved in making, and affected by, the solution.[91]

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[88]C. Kluckhohn, et al., "Values and Value-Orientations in the Theory of Action," as quoted in Talcott Parsons and Edward A. Shils, Toward General Theory of Action (Cambridge, MA: Harvard University Press, 1951), p. 395.

[89]Herbert A. Simon, Administrative Behavior (New York: Macmillan Co., 1947), pp. 80, 98, 176.

[90]Robert A. Dahl, Modern Political Analysis (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1963), p. 97.

[91]Kluckhohn, op. cit.

In Lipham's[92] model, values screen the awareness of a problem, screen the information seen as relative to a problem, and are the criteria against which higher order goals are assessed and projected (see Figure 4). He further noted that divergence in values held between individuals may cause a decision to be viewed as irrational from some participants' viewpoints.

However, differences in value orientations among group members often lead to innovative or creative decisions.[93] This diversity of opinion, which facilitates idea generation in the creative individual, may also lead to conflict. This conflict, in turn, may itself be perceived as evidence of irrationality.[94]

Personality may also be conceived as a set of need dispositions, or goal-orientated, patterned, cognitive and affective, more or less specific forces which determine perception and cognization of the environment.[95] Lazarsfeld,[96] using a three-dimensional scheme categorizing

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[92]Lipham, op. cit.

[93]L. R. Hoffman, E. Harburg, and N. R. F. Maier, "Differences and Disagreements as Factors in Creative Group Problem Solving," Journal of Abnormal Social Psychology, 6 (1953), pp. 161-173.

[94]Larry Cummings, "Organizational Climates for Creativity," Academy of Management Journal (September, 1965), pp. 220-227.

[95]Jacob W. Getzels, James M. Lipham, and Roald F. Campbell, Educational Administration as a Social Process (New York: Harper and Row, 1968), pp. 65-78.

[96]Paul L. Lazarsfeld, "Reflections of Business," The American Journal of Sociology, 65 (1959), No. 1, pp. 8-10.

need dispositions in terms of their degree of generality, directiveness, and time perspective, enumerated eight need disposition concepts: preference and opinions, traits and attitudes, wants, highly directional traits, expectations, tendencies and inclinations, intentions and plans, and motivation. Need-dispositions have been related to organizational goal attainment and participative decision-making,[97] and productivity.[98]

Cognitive ability also impacts on decision making. Intelligence intuitively relates to decision making, as do age and sex. Kogan and Wallach[99] found moderate degrees of correlation between intelligence and risk taking in men. Intelligence, as reflected in ability to conceptualize abstractions, appeared to be related to success.[100]

Age may also be related to decision making. Birren[101] elicited nineteen strategies which successful individuals used in arriving at major decisions, all of which he concluded appeared to evolve with age. Lipham[102] suggested that the ways one cognizes and structures the

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[97]Lowin, op. cit., p. 68.

[98]N. T. Fouriezos, M. L. Hutt, and H. Guetzkow, "Measurement of Self-Oriented Needs in Discussion Groups," Journal of Abnormal Social Psychology, 45 (1950), pp. 682-690.

[99]N. Kogan and M. A. Wallach, Risk Taking: A Study in Cognition and Personality (New York: Holt, Rinehart and Winston, 1964).

[100]James E. Birren, "Age and Decision Strategies," in A. T. Welford and James E. Birren, eds., Decision Making and Age (Basel, Switzerland: S. Karger, 1969), p. 36.

[101]Ibid., p. 35.

[102]Lipham, op. cit.

environment, including training and previous experience, are also related to decision making.

Just as personality factors influence decision making, decision making influences the person.[103] Personal changes may give rise to changes in social bonds, structure, and goals of groups,[104] all of which have an impact on decision making.

Individual traits and values have been related to the structure of the IGE. Herrick[105] found schools low in centralization to be high in teacher motivation. Individual traits and values have also been related to I & R unit effectiveness and IIC effectiveness. Evers,[106] using Schutz's definition of compatibility as "a property of a relation between an individual and a role, or between an individual and a task situation, that leads to mutual satisfaction of interpersonal needs and harmonious coexistence," was surprised not to find group member compatibility within units accounting for a significant proportion of the variance in total I & R unit effectiveness. She did, however, find I & R

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[103]George J. McCall, "The Social Organization of Relationships," in George J. McCall, Michael McCall, Norma K. Denzin, Gerald D. Suttles, and Suzanne B. Kurth, Social Relationships (Chicago: Aldine, 1970), p. 34.

[104]George J. McCall and J. L. Simmons, Identities and Interactions (New York: Free Press, 1966).

[105]Herrick, op. cit., p. 47.

[106]Nancy A. Evers, "An Analysis of the Relationship Between the Effectiveness of the Multiunit Elementary Schools' Instruction and Research Unit and Interpersonal Behaviors," unpublished Doctoral Dissertation, University of Wisconsin-Madison, 1974, p. 120.

unit member compatibility to be related to unit effectiveness when confounded with leadership behavior and task structure. On the other hand, Smith[107] found positive relationships between IIC effectiveness and the chairman's regard for comfort, well being, status and contribution of members. He also found a positive relationship between IIC effectiveness and members' close personal relations toward and from people.

The Group Interaction Perspective

As traditional industrial theorists regard members of an organization as an aggregate of individuals,[108] and as traditional educational theorists also regard classroom groups as aggregates of individual pupils,[109] one may likewise regard decision making groups in schools as aggregates of individuals. McCamy[110] believed that no individual ever makes a decision alone. Decision making may thus be viewed from the group perspective of interpersonal relationships, even from the perspective of a primary group or informal group existing within an organization such as the school.[111]

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[107] Smith, op. cit.

[108] D. Dumphy, The Primary Group (New York: Appleton-Century Crofts, 1972), p. 29.

[109] N. L. Gage, "Paradigms for Research on Teaching," in N. L. Gage, ed., Handbook of Research on Teaching (Chicago: Rand McNally, 1963), pp. 94-141.

[110] McCamy, op. cit., p. 41.

[111] Dumphy, op. cit., p. 5.

Maier[112] listed group decision making's assets as a greater sum total of knowledge and information, a greater number of approaches to a problem, participation increases solution acceptance, and better comprehension of the decision. Properties by which groups may be described, and which may influence decision making, include size, amount of physical interaction among members, degree of intimacy, level of solidarity, locus of control of group activities, group objectives, extent of formalization of rules governing relations among members, and tendency of members to react to one another as individual persons or as occupants of roles.[113] These properties may be integrated from a process, structural, or personality orientation as above, or from a communications network, participative decision making, or a political orientation.

While communication structure may be considered a structural property of a group,[114] it is established only by group interaction. Bavelas'[115] original work was followed by empirical studies relating

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[112] N. R. F. Maier, "Assets and Liabilities in Group Problem Solving, the Need for an Integrative Function," Psychological Review, 74 (1967), pp. 239-249.

[113] Darwin Cartwright and Alvin Zander, Group Dynamics (New York: Harper and Row, 1968), pp. 24-25.

[114] Ibid., p. 499.

[115] Alex Bavelas, "Communication Patterns in Task-Orientated Groups," Journal of the Acoustical Society of America, 22 (1950), pp. 725-730.

certain communication structures to speed and accuracy in problem solving,[116] to the differentiation of roles[117] and to degree of status,[118] all of which affect group decision making.[119] Bales,[120] Homans,[121] and Whyte[122] first posited interaction theory, conceiving the group as a system of interacting individuals. Mayo[123] and Lewin[124] defined this interaction in the area of decision about individual goals in any interactive group setting, although group decision now includes the procedural requirement of conducting a group discussion before the introduction of

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[116] R. Carzo, Jr., "Organizational Structure and Group Effectiveness," Administrative Science Quarterly (March, 1963), p. 400.

[117] Harold Guetzkow, "Differentiation of Roles in Task-Oriented Groups," in Dorwin Cartwright and Alvin Zander, op. cit., pp. 512-526.

[118] Cartwright, op. cit., p. 500.

[119] Ibid.

[120] R. F. Bales, Interactive Process Analysis (Cambridge, MA: Addison-Wesley, 1950).

[121] G. C. Homans, The Human Group (New York: Harcourt, Brace, 1950).

[122] W. F. Whyte, "Small Groups and Large Organizations," in J. H. Roher and M. Sherif, eds., Social Psychology of the Crossroads (New York: Harper, 1951).

[123] E. Mayo, The Human Problems of Industrial Civilization (New York: Macmillan, 1933).

[124] K. Lewin, "Forces Behind Food Habits and Methods of Change," Bulletin of the Nutrition Research Council, 108 (1943), pp. 35-65.

a stimulus for decision.[125] The involvement of persons in making the decisions they will execute has given rise to a body of literature around this concept of participative decision making,[126] including structural, personality, and perceptual variables.

The participative decision-making approach has led to much empirical

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[125] E. B. Bennett, "Discussion, Decision, Commitment and Consensus in 'Group Decision,'" Human Relations, 8 (1955), p. 272.

[126] Maxine Bucklow, "A New Role for the Work Group," Administrative Science Quarterly, 11 (1966), pp. 59-78; R. Dubin, "Supervision and Productivity: Empirical Findings and Theoretical Considerations," in R. Dubin, G. C. Homans, F. C. Mann, and D. S. Miller, eds., Leadership and Productivity (San Francisco: Chandler, 1965), pp. 1-50; D. Katz and R. L. Kahn, The Social Psychology of Organizations (New York: Wiley, 1966); R. Likert, New Patterns of Management (New York: McGraw Hill, 1961); A. S. Tannebaum, Social Psychology of the Work Organization (San Francisco: Wadsworth, 1966); V. H. Vroom, Work and Motivation (New York: Wiley, 1964); G. M. Arensberg and G. Tootell, "Plant Sociology: Real Discoveries and New Problems," in Mirra Komarovsky, ed., Common Frontiers of the Social Sciences (Glencoe: Free Press, 1957), pp. 310-337; R. N. McMurry, "The Case for Benevolent Autocracy," Harvard Business Review, 36 (1958), No. 1, pp. 82-90; H. L. Wilensky, "Human Relations in the Workplace: An Appraisal of Some Recent Research," in C. Arensberg, S. Barkin, W. E. Chalmers, H. L. Wilensky, J. C. Worthy, and Barbara D. Dennis, Research in Industrial Human Relations (New York: Harper, 1957), pp. 25-50; W. G. Bennis, "When Democracy Works," Trans-action, 3 (1966), pp. 35-36.

research, including meeting of subordinate motive,[127] internalization of organizational goals,[128] pressure to conform to prior commitments,[129] pressure for more careful consideration of decisions,[130] a positive correlation with job attitude and performance,[131] removal of group resistance,[132] and higher goal attainment.[133]

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[127]P. E. Slater and W. G. Bennis, "Democracy is Inevitable," Harvard Business Review, 42 (1964), pp. 51-59; C. Argyris, Personality and Organization (New York: Harper, 1957); Likert, op. cit.; R. Likert, "An Emerging Theory of Organization, Leadership and Management," in L. Petrullo and B. M. Bass, eds., Leadership and Interpersonal Behavior (New York: Holt, 1961), pp. 290-309; A. H. Maslow, "A Theory of Human Motivation," Psychological Review, 50 (1943), pp. 370-396; Lowin, op. cit., p. 75.

[128]Katz, op. cit.; J. G. March and H. A. Simon, Organizations (New York: Wiley, 1958); Nancy C. Morse and E. Reimer, "The Experimental Change of a Major Organizational Variable," Journal of Abnormal Social Psychology, 52 (1956), pp. 120-129; V. H. Vroom, "The Effects of Attitudes on Perception of Organizational Goals," Human Relations, 13 (1960), pp. 229-240.

[129]G. K. Kvulee, "Company Incentive Systems," Journal of Business, 28 (1955), pp. 37-47; Likert, 1961, op. cit.; March, op. cit.

[130]Lowin, op. cit.

[131]V. H. Vroom, Some Personality Determinants of the Effects of Participation (Englewood Cliffs: Prentice-Hall, 1960).

[132]Norman R. F. Maier and L. Richard Huffman, "Acceptance and Quality of Solutions as Related to Leaders' Attitudes Toward Disagreement in Group Problem Solving," Journal of Behavioral Science, I (1965), pp. 373-377; Coch, op. cit.

[133]Lowin, op. cit.

Personality factors mediate acceptance of participative decision making itself.[134] Participative decision making may also be measured objectively, or as perceived by participants.[135] Tannebaum and Smith,[136] however, found that it is the feeling that one is participating in decision making, not the actual participation, that matters. Sayler[137] reported that subordinates themselves have been shown to possess in a number of cases a preference for benevolent autocratic direction as against personal involvement.

Group decision making may be viewed from a long-term perspective in which decisions become aspects of policy formulation. March and Simon's[138] work on policy formulation stimulated the McGivney and Bowles[139]

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[134]A. S. Tannebaum and F. H. Allport, "Personality Structure and Group Structure: An Interpretive Study of Their Relationship Through an Event-Structure Hypothesis," Journal of Abnormal and Social Psychology, 53 (1956), pp. 272-280.

[135]L. R. Hoffman and N. R. F. Maier, "Quality and Acceptance of Problem Solutions by Members of Homogeneous and Heterogeneous Groups," Journal of Abnormal and Social Psychology, 62 (1961), pp. 401-407; March, op. cit.; A. S. Tannebaum and C. G. Smith, "Effects of Member Influences in an Organization: Phenomenology versus Organization Structure," Journal of Abnormal and Social Psychology, 69 (1964), pp. 401-410.

[136]Ibid.

[137]L. Sayles, Individualism in Big Business (New York: McGraw-Hill, 1963).

[138]James G. March and Herbert A. Simon, Organizations (New York: John Wiley and Sons, Inc., 1963).

[139]Joseph H. McGivney and B. Dean Bowles, "The Political Aspects of PPBS," Planning and Changing, III (April, 1972).

model, relating goals to the decision-making process. The degree of agreement on goals: shared, changeable, or negotiable, is matriced with the mode of the decision making process: rational, persuasion, bargaining, or power play politics, determining the degree of effectiveness of each mode (see Figure 6). The resulting degree of agreement, consensus, cooperation, coalition, or conflict, may influence the degree of policy acceptance and implementation.

Participative decision making at both the I & R unit and the IIC levels is one of the basic tenets of IGE. Pellegrin[140] initially reported that principals of IGE schools had only minimal impact on decision making, implying that decision making must be largely participative in nature. Conversely, Loose[141] reported that less than 40 percent of the decisions at the IIC level were made in a participative manner. The majority of those not made by the principal clustered around class scheduling and arranging for use of facilities, suggesting that participative decision making may be content area specific.

Pellegrin[142] also reported a change in communication network patterns in IGE schools with unit leaders acting as intermediaries between individual teachers and the principal, instead of most teachers interacting

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[140] Pellegrin, op. cit., pp. 13-16.

[141] Loose, op. cit.

[142] Pellegrin, op. cit., pp. 15-16.

Mode of Decision-Making Process	Shared Goals	Changeable Goals	Negotiable Goals	Degree of Agreement	
Rational	Yes	---	---	Consensus	High
Persuasion	No	Yes	---	Cooperation	
Bargaining	No	No	Yes	Coalition	
Power Play Politics	No	No	No	Conflict	Low

Figure 6: Goals and the Decision-Making Process.

Source: Joseph H. McGivney and B. Dean Bowles, "The Political Aspects of PPBS," Planning and Changing, III (April, 1972).

directly with principals as in traditional schools. He also reported that teachers in IGE schools perceived decisions as being made by unit leaders and teachers in a collaborative setting with minimal reliance on the principal for advice or assistance, whereas in non-IGE schools individual teachers were the primary decision makers with the principal setting discretionary limits.

Statement of the Problem

This study was designed to investigate and describe decision-making in IGE schools. Constructs from four selected conceptual frameworks--the rational decision process, organizational structure, individual traits and values, and group interaction--were set forth as guidelines for observations.

Specific questions addressed in this study were:

(1) How well do existent conceptual models explain decision making in IGE schools?

(2) Can a new model be developed which augments extant conceptual models of decision making?

(3) What are the variables which define decision making in IGE schools?

(4) What are the interrelationships of the variables which define decision making in IGE schools?

(5) What hypotheses can be generated from a new model?

(6) How does the new model developed from the interrelationships of variables explain decision making in IGE schools?

Overview of the Study

This chapter included an introduction to the study, an introduction to IGE and decision making in IGE, a review of the literature related to four general theoretical perspectives with IGE-related literature complementary to each of these four perspectives, a statement of the problem investigated, and specific questions to which answers were sought. The design and methodology of the study are presented in Chapter II, including definitions of the initial constructs by which the data were analyzed. Chapter III contains the presentation and analysis of the data. A new model of decision making, the model's use in examining decision making in the case schools and decision-making theories, and questions about current IGE practices and for future research are presented in Chapter IV.

CHAPTER II

DESIGN AND METHODOLOGY

This chapter contains a description of the general design and methodology of the study. The chapter is composed of six sections which consider the method used for case selection, a brief description of the case schools, an enumeration of the type of data collected and the procedures utilized to collect the data, the methods of analysis utilized, the significance of the study, and the limitations of the study.

Case Selection

After an exhaustive search and screening process, three IGE schools were selected in which to make intensive observations and to conduct detailed interviews. An initial list consisting of twenty-three schools located in nine states were nominated by both implementation and research personnel of the University of Wisconsin Research and Development Center for Cognitive Learning, and the respective state IGE Coordinators as having exemplary IGE programs. Each school nominated also met the following criteria:

1. Was organized in a multiunit pattern
2. Was using the Instructional Programming Model in at least one curricular area
3. Had an Instructional Improvement Committee that met at least once a week.

4. Had multi-age grouping
5. Had implemented IGE/MUS-E for at least two years

After telephone interviews with the school principals which focused on establishing rapport and gaining entry as an acceptable incompetent,[1] and after further maximizing variance on number of units within the school, number of pupils with the school, level of supportive services, and geographic and socio-economic divergence, six schools were selected for on-site visits. Three schools in three states were finally selected, maximizing geographic and socioeconomic divergence, but primarily offering unobtrusive entry to the researcher.[2] Unobtrusive entry was determined by the apparent non-negative reaction in the observation setting to the extensive note-taking carried out by the researcher in IIC and unit meetings, the lack of request of expertise from the researcher, and the freedom of the researcher to enter and leave formal and informal settings with little of no overt reaction from participants. In each of the three schools the voluntary appearance of at least one informant also influenced final case selection. A brief description of each school follows.

School 1: Yankee School-"A Break With Tradition"

Located in a building which was the gift of a wealthy resident and across the street from a Revolutionary War tavern, Yankee School

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[1] John Lufland, Analyzing Social Settings (Belmont, CA: Wadsworth, 1971), p. 100.

[2] Leonard Schutzman and Anselm L. Strauss, Field Research (Englewood Cliffs, N.J.: Prentice-Hall, 1973), pp. 18-33.

serves a bedroom suburb on the Eastern commuter corridor. The average property value of the town, established in 1670, is $75,000 and the median income about $40,000. The only current industry is munitions, a business concern established many wars ago, although the area was once a center for the procurement of masts, spars, tar, and pitch in sailing days. The ethnic make-up is virtually 100 per cent white, and the religious orientation is largely Protestant. Expectations for the school are high, and primarily cognitive, as the town provides recreation for its children including swimming, hockey, plays, golf, tennis, and drawing, and family backgrounds and income assure cultural development. The PTA is primarily ceremonial, but does provide parent volunteer helpers as classroom and clerical aides.

Yankee School, which serves approximately 375 children in grades K-4, is organized into three Instructional and Research Units, K-1, 2-3, and 3-4. The children, with a school mean IQ of 120, are bright and energetic. One teacher described his pupils as "...here to learn." The principal, fourteen classroom teachers, seven special area teachers, and three part-time aides could be described in much the same manner. The principal, described by his staff as a "wheeler-dealer" and by the students as "Mr. Teddy Bear", appeared to be everywhere at once, a bustle of energy informed on almost every event which occurred at Yankee.

The teachers rangedin experience from veterans of many years to a new staff member who had student-taught at Yankee the previous year; from the spouse of a former school board member to the spouse of a

university student. Staff turnover, however, is very low. With the exception of one or two individuals, each teacher was vocal and articulate in expressing and defending his or her views, beliefs, and aspirations. Several have earned or were working on advanced degrees and most viewed themselves in the teacher role as "here to learn". Curriculum development was viewed as a long-term process, with the Instructional Programming Model being used in three curricular areas, reading, mathematics, and language arts, with planning occurring in a fourth area.

Data collection activities focused around the office and around the rooms by each unit as shared office and planning space. IIC meetings occurred once weekly in the principal's office, the agenda being set by the principal. The interaction is best described briefly as either rapid fire when decisions had to be made, or brainstorming when decisions were to be taken back to units. Formal unit meetings took place once or twice per week, depending on the unit, although the shared office space converted time before school, recesses, noon hours, free planning time, and after school into a perpetual unit meeting. While this constant contact served to facilitate successful teaching of cooperatively planned curriculum and encouraged active exchanges about individual children, it most notably was free from any expressed conflict. It is this atmosphere that best characterizes Yankee School, the self-realization of which has caused the staff to describe their embodiment of IGE as "A break with tradition."

School 2: Dixie School-"We Share the Joy"

Dixie School, located in a state capitol in America's Southland, serves 340 pupils ages six through eleven. Dixie's site is on the main thoroughfare in an otherwise sleepy lower-middle-class white neighborhood in which about half of the pupils live. The other half are bussed in from one of the poorest black areas in the city, their families having an annual income of $3000 or less. Dixie's school system was one of the last major districts to integrate in the South, and the local residents around Dixie expressed apprehension about lowered property values and voiced unspecified fears since bussing had been started. An active neighborhood PTA provides volunteer help in the classroom, the office, and for special projects such as painting two wings of the school.

Dixie's staff can be characterized easily by one word: pride. Its principal, twelve teachers in four units, three special teachers, and three aides operate with an air of industriousness wich both serves as a model for and commands hard work from the pupils. One staff member summed up this general feeling by saying: "He (the principal) works hard, and so, in the same way, do we." All this labor is evident in an abundance of individualized learning material, much of it teacher made, being used throughout the school. Displays of student work, colorful decorations, and plants and flowers crowd the hallways, but among them students can always be found working.

The principal is also a bundle of energy. All matters he contacts are dealt with expeditiously. He frequently praises the teaching staff.

A conscious effort had been made in balancing the classroom staff by age, experience, and race. They were organized into four units of three teachers each, meeting with 5-6-7, 7-8-9, 8-9-10, and 9-10-11 year-old groups. Whereas there was occasional conflict between some staff members across unit lines, each unit was notably harmonious. Units meet formally once per week with a printed agenda, but most units meet informally after school to discuss the next day's plans and discuss some children's problems.

The IIC meets weekly. While most of its time was spent on housekeeping and information-sharing, some curricular decisions, especially those involving resource allocation, were made in the IIC. The primary process was information sharing which, if there was conflict, sometimes prompted decisions which were always decided by majority rule.

In addition to IIC and unit meetings, bi-monthly faculty in-service meetings are planned better to prepare the teachers to work in an individualized child-centered program. These meetings, of great interest for most staff and looked forward to and are conducted on a high academic plane. Two curricular areas, reading and mathematics, employed the Instructional Programming Model, with a third being adapted and a commitment to include all areas eventually. These adaptations formed the core of the in-service programs. This shared commitment to Individually Guided Education is exemplified by a catch-phrase heard often when something has gone well: "We share the joy."

School 3: Presidential School-"A Little Different"

Described by its principal as "...one of those schools where everything runs a little different," Presidential was one of the first IGE schools. Located in a midwestern city of 60,000 the school serves 250 children from kindergarten through sixth grade. The surrounding neighborhood is a mixture of lower working-class and unemployed, with about 40 per cent of the families receiving AFDC. Parent participation is minimal, but efforts continue to improve it.

Within the classrooms, individualization of all instruction is assumed. Presidential has been a "guinea pig" for almost all of the Center's curricular programs, and this is one school where the Instructional and Research Units were originally more appropriately named Research and Instructional Units. Hard work is the expectation and is the norm for the behavior of the entire staff. One common statement is the well-worn quip: "IGE means I Get Exhausted."

In addition to the four units regular weekly meetings, standing curriculum committees exist across units, and special task committees are often formed and dissolved when their purposes are accomplished. Areas of staff inquiry and in-service participation during the study included the development and implementation of school guidelines and strategies for management through consensus. An examination of personal, unit, and school values was also under way.

The principal is the prime mover at Presidential. Unit leaders, groomed for the position over many years, actively model his behavior and his pet phrases are often heard repeated. One unit leader described him

as "a crafty fox," and he describes himself a "synthesizer at a high level" of all the activity that occurs within the school.

The teachers exhibit a wide range of age, experience, and backgrounds, but most commonly and most significantly all have been with ICE for an extended period of time. This commitment is so total that it is noted here due to its lack of articulation within the school; that is, commitment is simply never questioned.

Visits to learning areas uncover a wealth of teacher-made materials, the obvious absence of any full set of texts, and an abundance of pupil-made projects. The children can best be described as inquisitive at all ages. Anyone entering the building is assumed to be a part of the instructional staff and/or a unique resource from which to gather information.

Unit meetings are scheduled once per week, a necessity with all the other meetings occurring. All unit activities are carefully coordinated with school plans, especially in the curricular area. Goal setting is a constant activity, both for pupils and teachers.

IIC meetings occur once per week for several hours after school. No area of operation of the school is off limits at any time, and the number of items covered is often quite long. Especially characteristic of almost all interaction within the IIC is good-natured joking, not just jestful, but often warm and personal. Visitors to the school, of which there is a constant stream, often describe Presidential as a happy place--just one big family where people care about one another.

Data Collection

Each of the schools was visited four times, the duration of each visit being from two to four days, and the visits were spread over nine school months in two school calendar years. On each visit documents were collected, formal observations were made at IIC and unit meetings, and informal interviews were conducted.

Primary documents collected included agendas and minutes from IIC and unit meetings for all meetings held over the sampling period. Other documents collected were faculty bulletins, school handbooks, relevant sections of school board policy, school newsletters, teacher organization materials, parent-teacher organization publications and their meeting agendas and minutes, and newspaper articles. Informal documents, such as teacher's notes from meetings and exchanges of written communications between staff members, were not collected but their content was noted during data gathering.

Observations weremade of all formal IIC and unit meetings which occurred during visitsto the schools. Each visit included at least one scheduled IIC and one or more unit meetings. As closely as possible, a verbatim chronological transcript of each of these meetings was obtained. A participant from each meeting was selected to verify the accuracy of the transcript. Verbatim transcripts of informal unit meetings were also included in the data base. Informal observations were also made in teachers' lounges, hallways, classrooms, lunchrooms, and school offices. Jotted field notes were made in all situations where writing could be done unobtrusively and were developed into full

field notes as soon as possible wherever researcher privacy could be obtained. In situations where notes could not be kept due to the risk of cutting off the data source, notes were made in privacy at the earliest possible opportunity. After the first visit, observations and interviews were focused on information relevant to decision content discussed at both the IIC and unit meeting level.

Interviews were conducted with all school building personnel, selected parents, central office administrators who had actually or reportedly played a role in a decision process under observation, and some pupils during the course of the study. In the initial visits, semi-standardized interviewing procedures[3] were used. Specific questions relating to interactive and personal factors were posed, including degree of participation and intimacy felt within the unit and within the school, age, sex, training, values, socio-economic background. In all visits, participants were interviewed following unit and IIC meetings to obtain further information relevant to their role in the observed decision process. These interviews were open-ended and non-directive, with questions asked and responded to in a conversational manner. Notes on informal conversations which were relevant to the decision process within the framework of the initial concepts of the study were also collected. On the last visit, two individuals within each school were asked to respond to a preliminary model of the decision-making process, with requests to define the concepts set forth

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[3] B. S. Phillips, Social Research, Strategy and Tactics. (New York: Macmillan, 1966), p. 110.

therein and attempt to describe relationships between these concepts.

Ancillary files, consisting of diagrams and models of the data were constructed each day during data collection, a chronological list of "insights" noted throughout the study, problems with methodology, and a noting of personal biases which may have affected data collection and/or interpretation, were also maintained.

Data Analysis

Verbatim transcripts of IIC and unit meetings and interview notes were segmented into one-sentence units, each sentence forming the basic unit of analysis for this study. Each sentence was placed with as many of the initial concepts from each of the four theoretical approaches to decision making as it approximated and exemplified. The initial concepts and definitions were selected from the four basic perspectives from which decision making may be viewed as set forth in Chapter 1. The following selections comprise a comprehensive, but not an exhaustive nor mutually exclusive, list of terms from which to begin analysis.

Rational Process Perspective[4]

1) Identifying the Problem	Becoming aware that a decision is needed
	Assessment of unmet needs

[4]James M. Lipham, "Improving the Decision-Making Skills of the Principal," in Jack A. Culbertson, et al., eds., Performance Objectives for School Principals (Berkeley, CA: McCutchan, 1974), pp. 97-102.

2) Determining Alternatives — Conducting a four-state mission analysis

a. Identifying an overall mission objective

b. Determining constraints

c. Removing constraints

d. Preparing a milestone profile

Performing function and task analysis, specific to get to each milestone

Performing function and task analysis, the alternative of getting each function and task done

Formulating the criteria to be used in assessing alternatives

Formulating the decision rules for selecting an alternative[5]

3) Choosing a Solution Strategy — Obtaining and assessing information related to each decision alternative

Applying the decision rules to the available evidence

Choosing one alternative

Reflecting on the efficacy of the indicated choice

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[5]Rogert A. Kaufman, "Systems Approaches to Education: Discussion and Attempted Integration," in Philip K. Piele, Terry L. Eidell, and Stuart C. Smith, eds., Social and Technological Changes: Implications for Education, (Eugene, Ore.: Center for the Advanced Study of Educational Administration, University of Oregon, 1970), pp. 162-163; Phi Delta Kappa National Study Committee on Evaluation, Educational Evaluation and Decision Making (Itansen, Ill., Peacock, 1971), p. 83.

	Confirming the indicated choice or rejecting it[6]
4) Implementing the Solution Strategy	Implementation evaluation to assess the extent to which the solution strategy is being carried out in the intended manner Progress evaluation to assess the extent to which the program is actually making gains toward achieving its objectives
5) Determining Effectiveness	Outcome evaluation to determine the general worth of the implemented solution

Organizational Structure Perspective[7]

Centralization	Degree to which power is distributed Proportion of jobs whose incumbents participate in decision making Number of areas in which job incumbent participate
Formalization	Degree of job codification Degree of standardization and codification of work procedures

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[6] Ibid.

[7] Jerald Hage, "An Axiomatic Theory of Organizations," Administrative Science Quarterly, 10 (1965), pp. 295-297.

Degree of latitude allowed in the performance of work

Stratification — Differential distribution of rewards

Number of formal authority levels

Degree to which authority levels are perceived to be linked with salary and status

Individual Traits and Values Perspective[8]

Sex

Age

Ethnic Background

Religious Affiliation

Marital Status

Membership in voluntary associations including associations, unions, political parties and offices held

Family Stratification including riches, family income, property, goods

Knowledge including years schooling, school(s) attended

Values[9] — Traditional - future time oriented, independence, moral, commitment

Emergent - present time oriented, group conformity, moral relativism

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[8]Hans L. Zetterberg, On Theory and Verification in Sociology (Totowa, N.J.: Bedminister Press, 1965), pp. 58-59.

[9]James M. Lipham and James A. Hoeh, The Principalship: Foundations and Functions (New York: Harper and Row, 1974), p. 72.

Post-emergent - reawakening, new consciousness, socially responsible, relevant, authentic, morally committed

Group Interaction Perspective

Size of group

Amount of interaction including frequency and length of meetings

Degree of participation by each group member

Degree of intimacy of group members

Degree of agreement on goals[10] - shared, changeable, negotiable

Degree of group agreement[11] - consensus, cooperation, coalition, conflict

Data from each school were initially analyzed separately, but the small number of decision processes actually observed dictated that analysis be done across schools. Multiple coders were used to assure reliability of the placement process. As referents grouped into conceptual areas, each concept was redefined through extension, subdivision, discarding, and combining. Where possible, the concepts were matriced with one another to facilitate these redefinitions. Critical incidents and negative instances of concepts[12] caused major redefinitions. This redefinition in turn served to focus interviewing after the initial

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[10] Joseph H. McGivney and B. Dean Bowles, "The Political Aspects of PPBS," Planning and Changing, III (April, 1972).

[11] Ibid.

[12] Blanche Geer, "First Days in the Field," in P. E. Harmond, ed., Sociologists at Work (New York: Anchor Books, 1964).

visit. This stage of analysis was carried out until nearly all data were placed in categories and concepts became saturated with referents. Final definitions of concepts were then set forth, including a statement of the necessary and sufficient conditions for the existence of the concept and statements that exemplify the concept.

Reexamination of critical incidents and high frequency, multiply placed referents provided initial linkages between and among concepts. Notes from the ancillary files indicated several linkages. Diagramming of data, which had been continuous from the first days in the field, was intensified and provided further insight into relationships. After a key linkage was developed, propositions were derived by considering relationships between concepts to be of a reversible, irreversible, deterministic, stochastic, sequential, coextensive, sufficient, contingent, necessary, substitutable, and/or interdependent nature.[13]

The propositions taken together were finally compared with the initial competing theoretical bases in an attempt to further clarify the relationships between concepts. From these comparisons a new model of the decision-making process emerged.

Significance of the Study

This study was significant for three reasons. First, as decision-making theory has been intuited rather than developed from systematic phenomenological research,[14] the study provided an

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[13]Zetlerberg, op. cit., p. 71.

[14]Phi Delta Kappa National Study Committee on Evaluation, op. cit., p. 331.

observational data base by which to ground theory. The use of field techniques to investigate decision making followed Griffiths'[15] call for the use of observational methodology in education, and Dahl[16] and Polsby's[17] insistance that in order to understand decisions and how they are made, the researcher must observe decisions being made. A literature search revealed few published studies using this approach in examining decision making in schools.

Second, the study developed a model which defined the variables involved in decision making and mapped their relationships. This model has research utility in its generation of hypotheses for future empirical studies on decision making. It further clarified and augmented intuited decision theory.

Third, the study provided information of practical utility for the improvement of the Wisconsin Research and Development Center's implementation and staff development programs. The delineation of the decision process in IIC and unit meetings clarified the role descriptions of the principal, unit leaders, and unit teachers which in turn became concepts and skills to be imparted in preentry, first year, and continuing in-service programs.

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[15]Daniel E. Griffiths, Administrative Theory (New York: Appleton-Century Crofts, 1959), p. 35.

[16]Robert A. Dahl, Who Governs (New Haven, Conn.: Yale University Press, 1961).

[17]Nelson W. Polsby, Community Power and Political Theory (New Haven, Conn.: Yale University Press, 1963).

Limitations of the Study

There were four major limitations to the study. First, the actual decisions analyzed were the end result of a chain of selection steps, each step excluding decisions with the potential of altering the definition of the final variables and altering the design of the model constructed from the interrelationships of these variables.

Second, decisions which received attention in both IIC and unit meetings and those which occurred when the observer was present were the only decisions selected for analysis, therefore making systematic sampling across all decision content impossible.

Third, general field study constraints imposed limitations on the study. Field studies depend heavily on the honesty of the persons in the natural setting. These persons may have been biased generally toward researchers, or they may have been biased by the observer himself if they perceived him as a norm-enforcer, as overidentified with marginals, or as having too much rapport with positional power or actual power role incumbents.[18] Some persons expected, at least initially, the observer to be an "expert" from the Wisconsin Research and Development Center and therefore were reluctant to share information and may have even consciously withheld it from him. Some data were also lost in the observation process as events took place simultaneously, although an attempt was made to gather such information through interviews. Data from the semi-structured interviews also may be

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[18] William J. Filstead, ed., Qualitative Methodology: Firsthand Involvement with the Social World (Chicago: Markham, 1970), pp. 189-234.

incomplete, since the degree of comprehensiveness of the data obtained was necessarily commensurate with the ability of the interviewer to construct probes which provided information relevant to the decision under examination. Ethical considerations also excluded some data from appearing in this report, although those data were analyzed.

Fourth, the observer's personal traits, values, and past experiences all biased his perceptions. Although these limitations were tempered by a careful recording of the observer's personal impressions and feelings and a concerted effort was made to identify their influence; and although the continual redefinition of the variables which occurred throughout the study mitigated their influence, this variable cannot be ignored.

Summary

This chapter described the general design and methodology of the study. Emphasis was placed on case selection and description, data collection, procedures, data analysis procedures including definition of initial concepts, and the significance and limitations of the study. In the chapter to follow, the data are presented and analyzed.

CHAPTER III

PRESENTATION AND ANALYSIS OF THE DATA

In this chapter the data are presented and described concerning the decision-making process in the IGE schools observed. In the first section, decision-making is discussed in each of the three schools in terms of four perspectives: rational process, organizational structure, individual traits and values, and group process. In the second section, decisions are compared and contrasted within and across schools for each of the four perspectives. In the final section, a brief analysis is made of decision-making styles and other relevant variables.

Decision Making in Yankee School

Observations of decisions at Yankee School focused on the IIC and two of Yankee's three units. The following decisions were observed: cutting the budget, instructional grouping of pupils, aide scheduling, starting time for parent volunteers, spending of monies, determining curriculum content of special areas, and scheduling of lunchroom supervision. Descriptions of these decisions from the four perspectives for viewing decision-making behavior as set forth in the literature review follow.

Rational Process Perspective

The decisions made at Yankee were found to most closely "fit" a rational process mode. Problems were identified by the principal

and/or unit leaders for inclusion on the IIC agenda. This agenda usually included ten to fifteen items, with additional items which had emerged since the printing of the agenda or which were nested or spun off from items already on the agenda, and were added by the principal or the unit leaders. Unit meetings did not have formal agendas, although one unit did review the IIC agenda and the unit leader's minutes after each IIC meeting. As each unit had a common planning room in which they kept their desks, many decisions were made whenever all members of the unit were present, whether at a scheduled unit meeting time, or before school, after school, or even in a few moments between meeting with pupils. A unit level decision needing input from the principal would also often be taken up on his appearance in the planning room. This immediate handling of almost all decisions was a striking characteristic of Yankee School.

After a problem was articulated, suggestions for solutions followed rapidly. If a solution was obvious, or only one alternative was voiced, nods and "yeses" were seen and heard. For example, the entire text of one decision follows:

> Q When do you want the parent volunteers to start?
> A As soon as possible.
> A Yes; yes; of course; yes.

When no solution was favored, an often heard comment was "Let's brainstorm," followed by a deliberate attempt to set forth as many alternative solutions as possible to the problem. One unit leader described this step of the rational process as:

> We put anything in mind down on paper, (we) don't even slough off the negative, and we may even end up with it.

For one decision at the IIC level, the decision process was suspended until the next meeting during the brainstorming step to get more alternatives from unit teachers. Before alternative suggesting was concluded, someone would often interrupt with an assessment of what happened before, or with the question: "What happened last time?" Typical answers to this question included:

> It worked last year.
> We did that the first year I was here--it didn't work.
> They would work well for Frank (a pupil).
> That made a mess last year.

The criteria by which a decision was made were usually unstated and assumed by all parties to that decision. After a meeting, probing for the existence of the unstated criteria always resulted in a flood of criteria. One teacher described as "Existant, but basically unwritten. We could list them for you." For example, the assumptions for grouping pupils for homeroom, none of which were articulated during the actual grouping process, as rattled off later at full speed by the unit leader, included:

> An equal distribution of boys/room
> Keep some sweethearts together
> Keep some sweethearts apart
> Some boys and girls to certain teachers for role identification
> Match pupil learning style with teacher teaching and learning style
> A different homeroom teacher than older sibs had
> Honor parent requests if possible
> More difficult b[illegible]avior problems with experienced teachers
> Separate some pupils
> Some teachers able to handle some types of parents better

Sometimes, however, during the posing and weighing of the consequences of alternatives, someone would ask "What criteria are we

using?" This question was usually heard the first time a particular item was taken up by a unit, or the first time it was taken up after a new teacher had joined the IIC or unit. The setting of criteria was then done in unit meetings by any member of a unit simply stating them, or by the principal stating them in the IIC. When the stated criteria were not to everyone's liking, the setting of criteria then became a nested decision of itself.

As alternatives were suggested and the consequences of each either reviewed from past experience or projected expectations, within the IIC and one of the units all alternatives except one were often eliminated as their negative consequences were suggested. The actual act of choice was then an unspoken consensus. This decision would next be confirmed by a chorus such as the above "yesses" or, for example, from a unit decision for each of the teachers to review individually a tentative instructional grouping list:

> Unit Leader - I'll go through this list alone
> Teacher A - Me too
> Teacher B - (Nods)
> Teacher C - Me too

Within the other unit observed at Yankee School, most decisions were also arrived at by consensus. However, when common criteria on which to base a decision could not be arrived at, or when there was no clear-cut alternative, a vote was taken. In the words of one of the unit teachers:

> How do we solve a conflict on a decision in our unit?
> We vote when there's a conflict. It's a democracy.

The actual implementation of decisions occurred outside of the decision-making situation. The only observed decision implementation concerned the continued method and nature of lunchroom supervision of one unit's pupils. After a disorderly trip to the lunchroom, a long wait in line for some pupils, and a noisy lunch, the unit leader in charge of the pupils reported to the unit the next day, when asked, that it "had not gone too well". However, she went on to state that "We'll (another of the unit members had supervision duty that day) try it again for a few days and see how it goes." This was followed by another unit member's reference to a projected evaluation at the next scheduled unit meeting, saying: "We could change it Monday if we need to." This particular decision process was also the only direct observed evaluation of a decision, the final step in the rational process perspective. However, the historical references during the evaluation of alternatives indicated that current decisions probably would be evaluated, at least informally, at some time in the future.

Organizational Structure Perspective

Some observational data related to the concepts of centralization, formalization and stratification. The decisions observed at Yankee, which in many traditional schools would have been centralized in the principal's domain, included cutting the budget, spending of monies, and assigning of lunchroom supervision. These were all decentralized to the IIC. The decision determining the curriculum content of special area may have been centralized at the special classroom area

in the traditional school, but was decentralized in reverse to the unit meeting and the IIC level. Pupil grouping was also decentralized in like manner, i.e., removed from the decision-making prerogative of the individual classroom teacher. On the other hand, the scheduling of special teachers within the school day was decentralized to the IIC level by the principal and within blocks of time to the unit level by the IIC. In one instance, a unit rescheduled its pupils to specials without the principal's knowledge. After he incidentally learned about the new schedule, and was asked by the researcher: "You mean they rescheduled specials without checking with you?", he responded: "That's their headache".

While the basic roles and status of principal, unit leader, and unit teacher are set forth fairly clearly within the IGE framework, some differences existed across units and may be related to the concepts of stratification and formalization. In one unit, grouping for instruction was done primarily by the unit leader: the other, less formalized unit grouped by the entire unit. The former unit was also more stratified, the unit leader described by two of her unit teachers as:

> She's a model for us.
> She's had more experience; we'll try it her way.

These two teachers, in their second and third years in the school, also described themselves respectively as "Here to learn" and "Someday an administrator, maybe, but first I've got to become the best possible teacher." The other unit leader made no unilateral decisions of any

kind, although by position and experience he probably could have. This unit was also more formalized in that each teacher was assigned primary responsibility to a curriculum area and thus prepared explicitly defined lesson plans for the remainder of the unit. While each teacher was allowed some variance in teaching technique, pupils were carefully tested for concept attainment.

Individual Traits and Values Perspective

At Yankee, most of the individual traits and values of the individuals appeared to have little to do with decision making. There was no observed or stated deference accorded to sex or age. The older teachers were sometimes asked to evaluate certain decision alternatives by the younger teachers, but on probing, this was due to their knowledge gained through experience in the classroom, and only a correlate of age. The ethnic background, religious affiliation, marital status, and family stratification of the staff at Yankee, while varying greatly across units and the school, also appeared to have little to do with decision making. Memberships in other organizations had no reported or observed direct effects on decision making. While most of the teachers were members of local, state, and national educational organizations, stands or positions taken by these organizations did not affect the observed decision making.

The local negotiated agreement was not cited as a condition in any decisions observed. The implementation of some of the conditions imposed in the agreement, for example those which required teachers to assume certain non-teaching duties, such as lunchroom, before and after

school, and recess supervision, which were delegated by the principal and the IIC to the units for assignment, does exemplify what one teacher called the "equal shares phenomenon." Each of these duties was shared equitably across the teachers in each unit, with only the unit leader relieved of a portion of them in order to carry out some of the additional responsibilities of that position. This assumption of equitable distribution of duties, whether contained in the contract, assigned by the principal, or self-imposed by the unit, was so strong that even one unit leader apologetically stated: "I feel a little funny with less duties."

The entire school shared certain values, primary among them being hard work and honesty. These values affected the decision processes indirectly when decision alternatives were being proposed, in that everyone was expected to carry his own weight. When alternatives were being weighed, previous decisions of a like nature which had had disastrous consequences for individual teachers were openly discussed. The word "give" was frequently cited when teachers reflected upon one another. All staff members expected each other "to give" to the limit of their capacity, which meant working to the limit of one's ability; or, in the words of one teacher, "You've got to give, to be motivated, to work hard." Teachers within each of the two units observed exhibited great regard for one another's feelings and well-being. Praise of each other's teaching success was frequently heard. Knowledge of and concern for one another's individual family situations and problems was also openly expressed.

Group Interaction Perspective

The size of the IIC (four) and the two observed units (five each) was small enough so that each person was able to contribute fully to the decision-making process. No one reported any restriction in his or her contributions for fear of taking up too much time. During brainstorming, enough ideas were always forthcoming that the process never bogged down. The amount of interaction within IIC and unit meetings was quite high, with all except one teacher in one unit contributing frequently to all discussions.

The frequency of IIC and formal unit meetings was once per week, but as noted above, many unit level decisions were made whenever the unit assembled. This was very frequent due to the physical proxmity of the teachers whenever they were not face-to-face with pupils. This close physical proximity encouraged a high degree of intimacy, particularly within one unit. One member of the unit described the planning area as "...sort of another home, a home away from home." Openness and sharing prevailed--of success and failures, of aims and aspirations, of families and food. A specialist teacher who worked in all the schools in the district described Yankee as being "open, they all really care about kids there--and about each other."

In the decisions observed there was almost always group agreement on goals. Goals were not seen as changeable or negotiable; therefore, observed decisions were concluded on a rational basis through consensus. However, one reported decision had been reached

after conflict. In this decision process, involving the use of certain curricular materials, one unit had implemented a previous curricular decision in a manner not agreed upon by the IIC. The conflicts had originally arisen in the IIC due to non-changeable and non-negotiable goals, so non-changeable and non-negotiable that the original agreement had to be reached through a majority vote. Even though the IIC had agreed that all units were to use certain materials, one unit had unilaterally used others. One unit reported that conflicts within their unit also were resolved by resorting to majority vote, although no manifest conflicts were observed within this unit.

Decision Making in Dixie School

Observation of decisions at Dixie School focused on the IIC and unit meetings of three of the four units. The following decisions were observed: hiring an aide, determining recess time, selecting an inservice topic, selecting a method to collect lunch money, determining the best way to use the IGE overview film, "Think Kids," deciding who should be on the vertical curriculum committees, assigning lunch room duties, setting pupil conduct rules, allocating audio-visual equipment, and deciding how to repair some playground equipment. Again, these decisions will be described from the four perspectives: rational process, organizational structure, individual traits and values, and group interaction.

Rational Process Perspective

At Dixie, the development of agendas was the first step in the decision-making process. The principal, described by the school secretary as "precise, a real list maker" drew up the IIC agendas for distribution prior to the meetings. Items were placed on the agenda at the initiation of the principal or at the suggestion of the unit leaders. Unit leaders could unilaterally place items on the agenda or bring forth problems from their units. During the initial faculty meeting in the fall the principal encouraged teachers to "Let your unit leaders know your problems" in order that they be discussed at the unit and IIC levels. The IIC agendas contained a majority of housekeeping information items which the principal wished to communicate to the entire staff, with some decision items interspersed. At the unit level, the first item of business at each formal unit meeting was to set an agenda. One observed unit meeting began with the unit leader stating "Let's set an agenda. What are we going to decide on?" Only one unit had a printed agenda prior to the meeting on the first observation visit, although all units had printed agendas on subsequent visits to Dixie. In both the IIC and the unit meetings, agenda items could be and were added, both at the beginning and at the end of the meetings, by various members of the respective groups. A part of each unit agenda was a discussion of items from the previous IIC meeting, identifying problems for the IIC, and making advisory recommendations on items the IIC referred to the units.

As each item was taken up in the IIC, the principal usually offered several alternative solutions to the problem at hand. Sometimes he set out what he perceived to be the positive consequences of each alternative; sometimes he merely listed alternatives. He spoke slowly, almost lecturing, but often pausing between statements at which time unit leaders would often add alternatives and suggest consequences of those already brought forth. When the principal finished, unit leaders were asked their ideas round-robin. If the school district's IGE facilitator was there, she was often asked about her ideas for solving the problem. (This was reported by several IIC members, although the facilitator did not attend any meetings at which the researcher was present. The facilitator did attend the IIC and each unit's meetings once per month.) If the number of alternatives forthcoming was sparse, one unit leader, in both IIC meetings and her own unit meetings, would frequently enjoin everyone, saying, "Now y'all speak up!" The principal would likewise often ask "Any other ideas?" or "Anything to add?" For example, during one decision process when no one had an idea, after a long drawn-out silence, the principal finally said "Well, (pause) let's send it back to the units for ideas."

On the other hand, brainstorming about how to best use the new IGE overview film at the school resulted in so many ideas that the IIC, on the principal's suggestion and everyone's immediate "yes", also decided to send it to the units for further discussion. This was done primarily so each of these alternatives (as they affected

the individual units) could be more fully discussed.

As alternatives were being suggested, three typical comments which indicated some criteria for choice and some evaluation of previous decisions were often heard:

> That sounds like a good idea.
> That worked well (or didn't work well) last time (or year)
> That works at ... (name of another school)

Criteria for reaching a decision were sometimes many and stated. For example, in hiring a new teacher's aide, the following criteria are from the transcript of the process:

> To sit on the floor with children and read to them
> To be able to take them all out
> Can she work with the little (kindergarten) ones?
> Does she like little children?

Sometimes there was only one criterion, for example: "Which is cheapest?" In other decisions the criteria, when stated, would be spoken as aside remarks, often prefaced by the phrase "Of course we want...." On one occasion a unit leader explained the criteria for a decision being discussed directly to the researcher. However, for the majority of the decisions the criteria for selecting decision alternatives went unstated. After the IIC meeting and after unit meetings, teachers were always able to state the criteria they personally had been using, and the lists across people were often identical or very similar. The principal, when asked if there were criteria he had in mind when favoring a particular decision alternative, documented the existence of these unstated criteria by responding: "Yes...but not written down."

Alternatives with negative consequences, either spoken or unspoken, were rejected and dropped one-by-one from the discussion. If only one alternative finally remained, a consensus was reached, indicated by silence as discussion terminated and heads nodded. The principal usually then restated the indicated choice which in turn was repeated verbatim by one or more of the unit leaders present. For example,

> Principal - Then we'll leave the option up to them (the pupils)
> Unit Leader A - Then we'll leave the option up to them
> Unit Leader B - Then we'll leave the option up to them
> Unit Leader C - Then we'll leave the option up to them
> Unit Leader D - Then we'll leave the option up to them

or a chorus of "yeses" or "fines."

If more than one alternative with positive consequences was suggested, each positive alternative did not, however, drop from the process but remained on the table as one of the alternatives from which a final decision would be made. After discussion of all forthcoming alternatives, a point of silence was usually reached. The principal would then ask "Do you want to make a decision now--or talk to others?" or "Should these choices (alternatives remaining) be sent to the units?" The only decision process observed when a "no" to the latter question was indicated then led to a simple majority-vote-rules selection process after each unit leader and the principal had stated her/his preference alternative and the reasons for it. All other decisions which reached this point were sent back to the units for input and choice. When these decisions returned to the IIC they were finally decided by perfunctory reason-stating and majority vote processes.

In discussing decision alternatives at the unit level in the two units in which extensive observation took place, the unit leaders almost exactly attempted to model the principal's IIC behavior. However, the teachers of one of the units frequently interrupted their unit leader with many alternatives to problems before she could present all of hers, even when advisory decisions with a closed set of alternatives from the IIC were being presented. This unit also spent a great deal of time examining the anticipated consequences of various decision alternatives.

Implementation of decisions usually took place outside the IIC and unit meetings. However, the decision on how to set unit rules for pupils was observed. Two units decided to have pupils set the rules for pupil conduct and planned to implement this decision by having pupils suggest them and then reinforce the positive rules which were not too severe. In each case the unit leader was to conduct a group discussion. Both meetings of all the pupils, teachers, and aides on the unit went as planned, prompting one teacher to ask rhetorically of the others afterwards: "My, wasn't that a fine meeting?" This statement, coupled with the plan to reinforce only reasonable and enforcible rules instead of all the rules the pupils suggested (some of which had been "too severe last year "), also served to evaluate a decision that was a year old. This decision, and several comments about "How did it work last year?" sprinkled throughout discussions of the merits of alternatives to problems presented in the IIC and unit meetings, were the only evidence, observed or reported, of evaluation of decisions at Dixie.

Organizational Structure Perspective

The content and value of decentralization of decision making were in evidence at Dixie. Fully half of the decisions observed were decentralized from the principal to the IIC or from the principal to the unit. The IIC set a topic for an inservice meeting, and, with input from their units, determined recess times for the entire school. Units themselves determined membership on vertical curriculum committees and allocated lunchroom supervision duties. One unit interviewed and selected a new aide with only minor aid from the principal. Asked why he didn't make the selection himself as described in his role duties he replied: "After all, they have to work with her." The teachers likewise decentralized rule setting for pupil conduct to the pupils themselves, one of them stating:

> If we set the rule, that's one thing. But if they set them, (its) to instill self-discipline. And that's one of our goals.

For other decisions observed, with the exception of all budget category allocation which was centralized all the way to the central office level, teachers were aware and comfortable with the level at which decisions were being made. The principal was instrumental in informing his faculty at which level decisions were being made with comments like "That's for _____ (superintendent, assistant superintendent, etc.) to decide" when problems surfaced which could not be decided within the school. Decentralization of decision making was valued by the staff, one teacher reflecting this feeling saying, when explaining to pupils why they had just been involved in setting their own conduct rules:

> For adults, the more involvement (they have) in conducting their own affairs, the more responsibility they show. And kids work the same way.

Dixie is stratified by the usual IGE roles. Each of the duties and responsibilities of each role is set forth explicitly and at length in the materials distributed to teachers at the beginning of the year. While these descriptions set forth clear job performance requirements, the status associated with the unit leader role, which could be dysfunctional, seems to be of minor significance. Unit leaders were selected by the principal, with the advice of the IGE facilitator. The unit leader role is viewed by the teachers as a position anyone of them could, and might have to, fill more than a permanent position to be attained. With the exception of one individual, unit leaders were not observed nor reported to attempt to exploit their status by making unilaterial decisions for their unit, nor to attempt to exert undue influence on their unit due to their position.

A comprehensive set of "Opening School Instructions" defined rules and regulations at Dixie, starting with the requirement that teachers sign in by 7:45, and proceeding through daily schedules, records, reports, pupil progress, folders, textbooks, supplies, student fees, IGE planning time, meetings, etc. for twenty-nine single-spaced pages. This extensive formalization of the rules and regulations of Dixie did not appear to hinder teachers from doing what their perceived to be their jobs. One teacher stated: "We get to do what needs to be done with the designs (curriculum) and with the kids...and that's what we're here for." As noted above, there is

also a heavy reliance on agenda building. Extensive and comprehensive minutes are also taken for both IIC and unit meetings and distributed to all teachers. All decisions are recorded--"It keeps us honest" remarked one unit leader. Several teachers save all minutes for reference.

Individual Traits and Values Perspective

At Dixie, several of the individual traits had little or nothing to do with the observed decision-making process. Included in this group are sex, religious affiliation, marital status, membership in associations including educational, and family stratification.

Age and experience did vary greatly, from one teacher spending her thirty-fifth year in teaching (her twentieth at Dixie), to a first-year teacher who had the year before interned there. Another member of Dixie's staff had been the recipient of the "Outstanding Elementary Teacher" award the year previous to this study. Some of the younger teachers valued this expertise and sometimes relied on them to weigh certain decision alternatives. One teacher would occasionally remark to a co-unit member "I trust your judgment."

As Dixie's school district had only recently integrated, the racial composition within the IIC and within each unit had to be balanced. While this attention to face presented no observed or reported problems within individual units, some overt racial tension was reported across the entire faculty. This did not, however, appear to influence any observed decision behavior.

As a part of the pre-school inservice, each unit developed a series of "We Believe" statements. These statements reflected the feelings of the entire unit in the areas of children, learning, discipline, and teaming. Values of the staff across all units abstracted from this document correspond to those expressed in personal interviews. Honesty, the need for open discussion, and maintaining the flexibility to work toward a basic common goal through giving and taking were most often mentioned. This agreement led to few reservations on the part of unit members to identify problems and/or alternative solutions to these problems. One teacher proudly stated: "They may not like it (her problem solution), but I'm not afraid to suggest it." The often heard by-word and beseechment "Be flexible" exemplified the necessity to implement a group decision, even though that decision may not have been decided in a particular individual's favor.

Group Interaction Perspective

The size of the IIC (six to eight) was large enough to keep ideas coming at a fairly rapid pace, but still small enough for everyone to say everything on their minds. The size of the units (three), however, sometimes contributed to abbreviated discussions regarding posing of decision alternatives and their consequences on one unit. Occasionally, a decision would take place in which one member advocated one alternative, the second member another, and the third member then held the determining vote.

IIC meetings were held once per week during which its members just managed to complete the agenda. Regular unit meetings also occurred once per week and each unit usually met after school each day to plan the next day's activities. These meetings often became informal unit meetings during which alternatives to items on that week's IIC or unit meeting agendas were discussed. Decisions rarely were actually made at these informal meetings, but often consequences of alternatives, particularly negative ones, were more freely discussed. As each unit also shared an open space teaching area, teacher also had opportunities for short discussions throughout the working day.

An agreement on common goals was evident throught the school. The "We Believe" document referred to above, with separate statements in the areas of children, learning, discipline, and teaming, although developed independently by each team, collectively showed remarkable similarities. On discovering several commonalities one teacher remarked: "It's surprising how they're all the same." This discovery was echoed by another teacher: "Its' funny how they all look alike." This sharing of common goals again usually led to decisions through consensus and yea-saying. When a common procedure to reach a goal could not be agreed upon and this nested decision was examined, it was usually reached through a simple majority vote. The losers were implored to "Be flexible," or, as one unit leader put it, to "Try it our way."

As Dixie's teachers shared common goals, the level of intimacy could be described as moderately high. Successes and failures were

shared; teachers drew on one another's strengths and attempted to provide one another with constructive criticism; however, an abundance of personal caring and feeling was not evident to the researcher. One intimate phrase occasionally repeated, and always greeted with warm smiles by others, did indicate a certain intimacy--"Take pride."

Decision Making in Presidential School

Observations of decisions at Presidential School focused on the IIC and on two of Presidential's four units. The following decisions were observed: determination of membership on ad-hoc committees, composition of reading groups, allocation of building space including shared classroom space and storage areas, scheduling of aide time, and selection of materials to implement the math objectives. These decisions will be described in the manner of the two previous sections.

Rational Process Perspective

A common catch-phrase at Presidential was "we need (or want) to surface it" when an individual or a group perceived a problem. This emphasis on identifying problems resulted in long agendas, and long meetings, of both the IIC and units. The first item on every agenda was "Your Concerns." Here many problems were identified that did not appear elsewhere on the principal or unit leader compiled agendas. All other agenda items were supposed to be decision items. The emphasis on identifying problems was so strong that when an individual group member was known by others to have a problem and was hesitating to present it or attempting to ignore it altogether, certain individuals

would briefly touch on the problem and then literally command the first individual to "bring it forth."

After the initial presentation of a problem, the principal and unit leaders would usually restate the problem in an attempt to focus it. In his restatements, the principal often used much of the original presentation verbatim. This restatement was to make the problem much more "succinct", a goal at this stage of the decision process according to one unit leader. This ability to be succinct and to "have to be erudite" was one of the "leadership qualities" the principal described himself as having and was one criterion he used in selecting unit leaders.

After a problem was articulated, the need for initial agreement on principles and goals was often cited by group members. For example, the questions, "What are our goals?" and "What are we trying to do?," were heard in several decision processes. The response to this type of question occasionally resulted in statements of criteria for weighing the alternative solutions for the problem which were usually set forth in the next step of the decision process, but typically resulted only in silence. Probes of individual's thoughts during this silence also yielded either no response or thoughts of criteria by which to later evaluate alternatives. However, even given the overt question regarding the nature of goals to be accomplished, no direct goal setting was observed. This entire step was very brief.

After the problem was on the table in a clear form, the comment "Let's brainstorm" was inevitably heard, unless there was only one

clear solution to the problem. In these few latter instances, consensus was immediate and unspoken, or unilateral decisions were made by the principal or unit leader. In IIC meetings, the call for brainstorming was met first by the principal, who then listed as many alternatives as he could, usually at least five or six. Some of his alternatives were solutions he personally did not favor; some he favored; some were, in his words, "straw men" to provoke discussion; some were to clarify further the problem at hand; and in one instance an alternative was suggested to "surface" another related problem. In unit meetings, both observed unit leaders also suggested the initial list of alternatives, although they reported their alternatives were all straightforward positive alternatives they favored or could live with. Group members for the most part kept notes during this part of the decision process, writing down each alternative as it was suggested. Several unit leaders and teachers reported examining their individual lists "over and over again" as additional alternatives were being suggested in an attempt to exhaust all possibilities of problem solutions. One unit leader articulated this process when heard to say as an aside to another unit leader, "He (a third unit leader) just gave me another idea." Suggesting as many ideas as possible was not only expected, but demanded. In IIC and unit meetings the principal and unit leaders respectively would ask non-contributors to add to the list. Group members would also make this request; for example, "You haven't said anything yet" was one unit leader's charge to another during one IIC meeting.

When the listing process came to a halt, the brainstormed alternatives were sifted through, one by one. In the sifting process the basic question, "What are the pros and cons?" was discussed. At this point a frequently heard comment was "What are our criteria?" In some observed decision processes the criteria had already been set forth in the problem articulation stage. In some processes a list of criteria was compiled in response to this request. But in most decision processes the criteria by which to consider alternatives were assumed to exist but remained unspoken. Probing for these unspoken criteria always elicited a comprehensive list. With criteria in mind, the list of alternatives was next taken from the top. Unworkable alternatives were disregarded as their negative consequences were elicited and elaborated upon. Comments such as, "That's not such a good way after all," "I'll withdraw my idea," "The hell with that one," or "We simply can't do that," disposed of several alternatives. Other alternatives were unilaterally dispatched by the principal in IIC meetings and by unit leaders in unit meetings. Their elimination of certain alternatives was never observed to be challenged. One unit teacher described her acceptance of this unilateral action saying: "In specific cases they (principal and unit leaders) are responsible for what goes on and they should do it." The process of elimination continued until there were several workable alternatives with positive consequences, no workable alternatives, or just one alternative remaining. In the first two instances, decisions were put off to a later time when additional "input" could be gathered. The comment "Let's take it to the units" terminated the

immediate decision process in the IIC in one of these cases. During one unit decision a teacher suggested: "Let's ask the kids--and do we have all the data we need at this point?" When additional information was gathered in the one deferred decision process that could be observed on a subsequent visit to the school, one of the two alternatives under discussion at the time of deferral had been eliminated by this additional information. The only remaining alternative was accepted by the unit in unspoken consensus, as immediately following the presentation of the two alternative and the negative consequences of one of them the unit moved on to the next item on their agenda without further discussion.

When only one alternative remained after the sifting process, the principal would usually ask the IIC "Are there any other alternatives?" In the observed processes this question was always met with silence. One of the two unit leaders also asked this same question during several decisions with his unit. The silence of both groups was followed by another question: "Is there consensus?" The principal and both unit leaders observed usually asked this same question of their unit members as the final decision was reached. These questions were met with silence, or comments such as: "Good idea," "We'll do it that way," or simply a chorus of "Yeses." Several individuals also used a thumbs-up gesture to indicate consensus had been reached. As an aside, this same gesture was also frequently seen on Presidential's playground between children to indicate approval of one another's performances and ideas.

Implementation of observed decisions was made outside of the decision processes and the behavior able to be observed in this study. The school "Management Through Consensus" guidelines state, "...consensus solutions are implemented effectively." Also notably absent was evaluation of any past decisions as alternative solutions to problems being considered.

Organizational Structure Perspective

For the decisions observed, Presidential's principal did decentralize determination of committee membership, allocation of building space, and scheduling of aide time. Pupil grouping, by the nature of IGE, was centralized from the individual teacher level to the unit level, setting up the opportunity for even further centralization described below.

Presidential's staff expect to participate in decentralized decision making. One unit teacher, with an unbelieving look on her face, stated: "I can't imagine being in a non-IGE school where you don't help make the decisions." The value of this decentralization to individuals was also often mentioned in interviews with Presidential's staff. "They let us make the decisions that really impact our teaching" is the way one unit teacher put it. The principal also reiterated this basic IGE principle stating: "They have to carry them (decisions) out--they should help make them." However, in one decision process the principal unilaterially over-ruled the decisions of a unit involving grouping of pupils for instruction in both the assignment of pupils to groups and teachers to pupil groups. "I centralized the decision because

it was wrong," he said, "...not in the best interest of the kids or the teachers." This "interference," as one teacher put it, was observed in only one instance, but did recur "occasionally" according to several other teachers. On the other hand, a frequently expressed need was for better inter- and intra-unit communication, including more time for unit and IIC decision-making time.

Presidential's teachers did not feel their actions and decisions were formalized by "too many rules." Only in the sense that Presidential has been a test school for innumerable research and development projects have instructional tasks been formalized. This "formalization" has, paradoxically, been in the direction of making instruction less formalized in traditional classroom directions. Some teachers do, however, good-naturedly grumble at principal and IIC decided procedures which they must carry out with comments such as the begrudging question asked near the end of a long unit meeting: "What else do we have to do?"

Presidential is stratified in the usual IGE arrangement, with some status and prestige granted to unit leaders by other staff members. Some staff members also tend to hold the principal in awe. As noted above, the principal and unit leaders acting alone or in the IIC do only occasionally make certain unilateral decisions which are viewed as a priviledge of their positions. These decisions are not fully accepted by other teachers. Unit leaders, groomed by the principal over many years, developed a somewhat closer relationship with him than do some of the other staff members.

Individual Traits and Values Perspective

At Presidential, many individual traits had little to do with decision making. The traits of sex, age, ethnic background, religious affiliation, marital status, association memberships, family income, even though exhibiting variance across the IIC and all units, made no observed nor reported impact on the decision-making process. Presidential's staff possessed a diversity and depth of academic preparation, including an extensive amount of participation in inservice programs. "We're a very academic group" is the way one unit leader described her unit. Presidential has been used as a pilot school for many curricular innovations. Reflecting on the steady stream of university researchers over many years prompted the principal to state: "They try it here, and when it works, they'll use it all over next year." As a result of this high cognitive emphasis, most of the staff, especially the unit leaders, are very articulate. Alternatives to problems flow very freely. Each person is also expected to and does contribute to weighing the "pros and cons" of all alternatives.

The values of Presidential's staff, as articulated by the few individuals who conversed about them, included a "feeling" of a need for "trust and understanding" of one another. One individual put it this way: "This year's goal is getting people to value others' values." Another zealously stated: "We do value personal objectivity and acceptance of others." Several other individuals did emphasize that the reason for the goal was a lack of personal objectivity "in some people" and a general lack of intra- and inter-unit communication due to "different

values" and the existence of "some conflict." No conflict was observed during the course of the study.

One additional articulated value was honesty. As the principal said: "(I) can be honest with them and I expect them to be honest with me--and they are."

Group Interaction Perspective

The size of the IIC (six) and each of the units (five), given the emphasis on proposing and discussing alternatives, contributed to meetings becoming lengthy. Several teachers did complain about "not enough time for meetings (IIC, unit, and ad-hoc committees)." They did not, however, directly express any dissatisfaction with the long decision process itself. "That's just necessary" said one unit teacher. However, some decisions appearing on agendas were held over from one meeting to another. Others not taken up due to lack of time were either unilaterally made by the principal, unit leaders, or left to individual teachers.

As described above, intense participation of all persons was expected during all steps of the decision process. This was observed without exception. This interaction produced some intimacy. One unit leader spoke warmly of the IIC saying: "This is an 'in group'." A degree of good-natured banter was usually present throughout IIC meetings. The principal and unit leaders spoke of the units as "families." One such family's members described their unit as:

> The best in the universe.
> We share all responsibilities.
> We are free to ask each other for help.
> She's counting on me.
> We acknowledge each other's competencies and draw on them.

Personal agreeableness did not carry over to initial insistance on common goals during decision making. The potentiality for some disagreement was taken for granted. As alternatives to a given problem were discussed, some group members were expected to drop their favored solutions, change their minds about goals, and finally cooperate to achieve a "rational consensus." No actual conflict was observed during decision-making processes, although some unit members did initially pursue their alternatives with assertion and aggressiveness. In only one decision did one unit member retrospectively express personal dissatisfaction with the outcome, but said: "We're not supposed to have a confrontation so I just went along."

Rational Process Perspective

Decisionswithin and across all three schools fell roughly into the same steps: problem identification alternative posing, alternative consideration including evaluation,and decision making itself.

Problems were identified in three basic ways: placement on a written agenda, addition to this formal list, or spontaneous consideration. In all three schools principal-prepared IIC agendas ran to extensive lengths. To these agendas Presidential's staff added items to the beginning, Yankee's to the end, and Dixies' unit leaders added items at both ends. Within each school each unit observed took the same problem identification mode as the other units in that school, but there were differences across schools. These differences may be related to the frequency of meetings. Presidential's once-per-week

unit meetings had formal agendas set by the unit leaders. These meetings were the only decision processes observed. Dixie's units followed the same once-per-week pattern, but many problems were also identified and solved at informal meetings after school. Yankee's units, while maintaining a definite unit meeting time for some problem solving, did in fact handle almost all decisions as they arose on a day-to-day or even hour-to-hour basis. The source of any added or spontaneous item might be the principal or any teacher on any staff for any meeting. With the exception of Presidential's IIC which never had enough time to finish the agenda items, all IIC's and units took up all scheduled, added, and spontaneous items. As Presidential's staff did place a constant stress on problem identification and articulation and its agendas did take up any new concerns first, one teacher's claim can be verified across all IIC's and units: "We're involved in all the decisions that count." Only at Presidential were some items occasionally left for unilateral decision by the principal, unit leaders, or the individual teachers.

After a problem was articulated, unless there was only one clear and immediate solution (which will be discussed as a special case below), "brainstorming" took place in all IIC's and units observed. At Presidential, this step was preceeded by restatement of the problem by the principal or unit leader and a call for the determination of the goals of the decision. At both Dixie and Presidential someone directly called for the brainstorming, while at Yankee this step proceeded spontaneously. The resultant production of alternatives flowed from

all group members. No particular individuals went first at Yankee, while the principals made the initial listing of alternatives in IIC meetings and unit leaders in unit meetings in the other two schools. In only one unit in Dixie could alternative production be termed sparse. Juxtaposed with alternative presentation was alternative weighing in all groups at Yankee and at Dixie. Dixie's principal sometimes also mentioned positive consequences of some alternatives as he listed them. In the remainder of Dixie's meetings and in all of Presidential's meetings the group members attempted to exhaust the list of all possible solutions before actually going on to weighing their consequences. This listing process was not complete until everyone had been heard. In Dixie's IIC only a small number of alternatives caused referral of two decisions back to the units. The other two IIC's also made referrals, but at a later point.

As alternatives on the table were being weighed, some differences were noted across all three schools and within Dixie itself. At Yankee and in one of Dixie's units, weighing went on while alternatives were still being suggested. In Dixie's IIC and other unit and in all of Presidential's groups, alternative consideration proceeded methodically on an alternative-by-alternative basis. Criteria for determining the worth of an alternative were usually unstated by all groups. However, at Dixie they sometimes were dropped into the process, and at Yankee and Presidential and one of Dixie's units they were listed and/or discussed when someone directly inquired as to their existence and nature. All of Yankee's and Dixie's groups also usually reflected on

similar past decisions as one criterion for determining the worth of an alternative. As an alternative was being weighed, whether or not more alternatives were still forthcoming, the posing of negative consequences, whether historical or projected, caused the alternative to be dropped from discussion in all groups in the study.

When only one alternative survived this process, or when only one viable alternative had been present from the onset, consensus was reached by either silence or by a "chorus of yeses." The vast majority of decisions observed concluded in this manner. When two or more positive alternatives still remained after sifting, Dixie's and Presidential's IICs sometimes sent decisions back to units. Yankee's IIC and units and Dixie's units took a vote when several alternatives remained, as did Dixie's IIC after referral. Presidential's IIC and units always reduced their alternatives to one, although the elimination of competing alternatives was occasionally accomplished unilaterally by the principal or unit leaders without stating reasons. One unit leader at Dixie occasionally attempted to make unilateral eliminations, but her unit members insisted on participating in the decision-making process.

Organizational Structure Perspective

Evidences of the concepts of centralization, formalization, and stratification show a general similarity across the three schools observed. Only schools will be compared and contrasted in this section as these concepts relate to the entire organization--not to particular

decision-making groups.

An examination of decision points for the decision content observed in this study revealed that principals, in keeping with basic IGE tenets, for the most part decentralize decisions to their IIC's and units within all three schools. Items such as budget determinations and expenditures and aide hiring and scheduling are examples of this type of decision content. Yankee's staff, aware of similar precedents, made a rescheduling decision at the unit level without even consulting the principal. On the other hand, Presidential's principal overruled a unit decision, centralizing a pupil grouping decision that would have been made at the classroom teacher level in a traditional school. At Yankee and Presidential and reported but not directly observed at Dixie, some decisions, such as pupil grouping and scheduling, became more centralized as the IGE unit structure removed decision from this level of the individual classroom teacher and placed them at the unit meeting level. This group of decisions was primarily curricular in nature.

The concept of formalization, the degree of job codification and latitude tolerated within the rules defining the job, varied from school to school. This variance was not so much in quantity but in emphasis on certain aspects of the job. The existance of an extensive set of school (job) instructions appeared to make Dixie the most formalized of the three. However, Presidential's high formalization of innumerable classroom teacher tasks formalized a different area of the job description for its teachers. Yankee's teachers also formalized

some instructional tasks for each other, but within their units instead of across an instructional programming package. All three schools had undergone extensive preparation before implementing IGE and subsequently had held many inservice training programs, all of which left the staffs with a great familiarity in IGE role descriptors for various positions. This familiarity with extensive job descriptions might be considered evidence of a high degree of formalization.

All three schools were likewise stratified according to the IGE organizational arrangement. In all schools the principals not only were granted a high degree of formal status positionally, but also a high degree of informal status personally. Some degree of variance did exist, however, and will be discussed in the last section of this chapter. The major difference between schools was the degree of formal and informal status accorded unit leaders. Presidential's staff might be described as the most stratified of the three schools, with a great deal of status granted the unit leaders who had been groomed for their positions and who were considered an "in group" not only by themselves but by most of the rest of the staff. Yankee's unit leaders were granted formal status by virtue of the position, although they derived their informal status with the other teachers primarily because they were "looked up to" by most of these teachers as experienced, master teachers. Unit leaders at Dixie were granted only minimally formal status by virtue of their position, as the unit leader's position was seen as interchangeable with any individual teacher's role on a year-to-year basis. The necessity to racially balance the

IIC and all units perhaps contributed to this sense of interchangability. Specialists, such as reading resource persons, guidance counselors, and unit teachers with special strengths were also granted considerable formal and informal status at all three schools.

Individual Traits and Values Perspective

Most of the individual traits of the persons involved in the observed decision-making processes appeared to have little or nothing to do with the process both across schools and within schools. Included in this group are sex, religious affiliation, marital status, association membership and activity, and family background. The individual traits of ethnic background, age, and knowledge bear closer scrutiny.

The multi-racial ethnic background of Dixie's staff reportedly caused some conflict between a few individuals on its staff. Since these teachers were placed in different units, this conflict did not appear to confound any decision processes. The individual traits of age and knowledge appeared to relate to one another at Yankee and Dixie. In one unit of each of these schools, younger teachers trusted the judgment of older, more experienced teachers during the decision-making process, especially when alternatives were being weighed. This behavior was not observed in other units or the IIC's of either school, or at Presidential. The individuals at Presidential, due to their continual dealing with university researchers, emitted an effervescent air of cognitive and affective self-assurance as they constantly acquired new knowledge. This vast knowledge pool facilitated the exhaustive

and efficient posing and weighing of decision alternatives at Presidential school.

The values of individuals and groups within schools may be compared and contrasted to some degree, although the data in this area are incomplete, since it was unobtained and/or unobtainable from some individuals, particularly at Presidential school.

Honesty in all dealings was the one articulated value descriptive of all individuals across all schools. No one ever questioned another's integrity at any time. The commitment to a job which meant long hours of hard work inferred the value of industriousness, a value shared by most of the individuals in the three schools. In fact, this value was articulated in one of Yankee's units as a matter-of-fact statement.

At Yankee and Dixie a frequently mentioned value was the necessity to give--of one's time, ideas, and self. In return, reception of other's efforts and ideas was expected to be accomplished gracefully. This reception included the necessity to willingly implement a group-selected decision alternative that may not have been an individual member's first preference. Reference to unit goals and their "This We Believe" statements were relied on to accomplish the "taking" part of this giving and taking at Dixie. At Presidential the continually expressed reference to the need for goals during decision processes was seen by some individuals as an attempt to establish this value of giving and taking.

In all schools close personal friendships existed due to shared values. The nature of these values varied from group to group and had to be inferred as direct probes yielded only vague and unspecific responses. Their existence is cited here only in that these friendships existed primarily across unit lines aiding informal communication about some of the decision processes examined.

As discussed in a previous section, Presidential's staff placed a value on valuing one another's values. They assumed that some conflict was not only necessary, but probably desirable. While school guidelines indicated that this was expected, some individuals indicated a concern that the degree of conflict sometimes was too high--that it was not only encouraging divergent solutions to problems but was at the same time discouraging this same elicitation from some teachers. Except for one instance at Dixie, both Yankee and Dixie were notably free of any observed or reported latent or manifest conflict.

Group Interaction Perspective

The size of the decision-making group, the frequency of interaction at meetings, the length of meetings, the degree of participation by group members, and the degree of intimacy varied across and within schools. The degree of agreement and existenace of goals also varied strikingly across schools.

The size of decision-making groups varied from three to six. Within this range, all groups, with the exception of one unit at Dixie, had enough persons to keep alternative solutions to problems

flowing freely, but not too many persons to "bog down" this process with too much information. The demands for contributions at Dixie and Presidential also assured a high frequency of interaction and high degree of participation by group members in all groups, except possibly one at Dixie. Yankee's staff simply talked a lot without any urging except perhaps for one teacher who could be described as reticent. The one unit at Dixie which had a low frequency of interaction had only three members. These teachers sometimes found themselves in a voting situation, with one teacher favoring one decision alternative, the second teacher a second, and the third teacher forced to choose between the two. This interaction on two occasions produced little discussion of the consequences of either alternative.

IICs met once per week at all schools. Despite the length of the meetings, Yankee's and Dixie's IICs completed their agendas with no subsequent change in the decision processes. Sometimes meetings ran well over the scheduled times. This length did not produce any limitation of discussion at any point in the decision process. The limited time available for Presidential's IIC meetings did, however, lead to unfinished agendas, with a resultant pressure to accelerate the pace of decision making and therefore to fail to fully consider some decisions, especially in the alternative posing and weighing steps. Tabled decisions also led to some unilateral decision making and some "recentralized" decision making.

The frequency of unit meetings ranged along a continuum, from almost continuous for one of Yankee's units, to regularly scheduled and some informal meetings for Yankee's other unit and Dixie's units,

to regularly scheduled and only infrequent informal meetings at Presidential. Across schools, the length of the regularly scheduled unit meetings typically was inversely related to the frequency of the additional informal unit meetings. At informal unit meetings, teachers also expressed more negative evaluations of past decision experiences when weighing decision alternatives than they did at the regularly scheduled meetings.

The varying degree of intimacy across schools also ranged along a continuum. This intimacy, more fully described in the immediately preceding section of this chapter, may be characterized as warm and personal for Yankee's IIC and units, sincere and trusting for two of Dixie's units, open and sincere for Dixie's IIC and other unit, good-natured for Presidential's IIC, and personally objective for Presidential's units.

Examining the decision processes from the broader perspective of goals shows differences across schools. Yankee School operated under a comprehensive set of long and short range goals, replete with immediate and process objectives and evaluation procedures. The extensive document describing these goals and means of attaining them, constructed by the IIC with input from the units, had been agreed upon and internalized by almost all of the staff. As these goals were also broken out by unit, unit solidarity on goals also existed. This overall agreement on goals may be related to the high degree of consensual agreement reached in decision processes at Yankee. Only in one isolated incident were these goals departed from, yielding the only hint toward conflict recorded.

At Dixie, goals had been developed independently by units as a part of their "This We Believe" statements. Overall school goals consisted of the compilation of these statements. These unit goals showed a high degree of congruency and therefore goal agreement. Some goals did vary from unit to unit, causing the underlying goals of some decision processes to be examined and changed as a nested decision during some IIC decision processes. The modes of decision making at Dixie are therefore both consensus and cooperation.

Presidential's staff, in both unit meetings and the IIC, constantly inquired, "What are our goals?" This staff had been through so many goal-setting and examining processes that some teachers reported being "tired" of the process. This question always went unanswered, with individuals either reflecting on their own goals or not reflecting on them at all. No comprehensive set of goals existed at Presidential. While all decisions were supposed to be reached by consensus, some were arrived at through cooperation or conflict as individuals changed their goals or didn't change their goals but simply subordinated them.

Principals' Decision-Making Styles

This study did not set out to directly examine any variables related to the principals' style, but two factors emerged from the data. The concepts of modeling and principal leadership behavior influenced decision behavior within each school.

In all three schools, unit leaders modeled their behavior on that of their principal. For a few individuals, this modeling was so complete as to include voice inflections and gestures. To a unit, unit meetings were managed by unit leaders in the same manner as IIC meetings were handled by the principals. Yankee's IIC and unit meetings were characterized by free flowing, rapid discussions--the principal and unit leaders functioning in a participative, co-equal mode. Dixie's and Presidential's principals discussed decision alternatives by listing their preferred alternative before anyone else; their unit leaders did likewise. Dixie's principal was full of praise for his teachers, and his unit leaders were likewise for their colleagues. Presidential's principal exuded professional and personal competence, as did his unit leaders. Moreover, Presidential's principal occasionally unilaterally overruled IIC and unit decisions, and Presidential's unit leaders sometimes made unilateral decisions for their units.

In terms of the general categories of Gramenz's[1] adaption of House's Leader Behavior Description[2] derived from the Ohio State University Leader Behavior Description Questionnaire,[3] each principal exhibited differential behavior as viewed by himself, his staff, and the researcher.

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[1] Gary W. Gramenz, "Relationship of Principal Leader Behavior and Organizational Structure of the IGE/MUS-E to I and R Unit Effectiveness," Doctoral Dissertation, University of Wisconsin, 1974.

[2] R. J. House, "A Path Goal Theory of Leadership Effectiveness." Administrative Science Quarterly, 11 (September), 1971, 321-338.

[3] A. W. Halpin, The Leadership Behavior of School Superintendents. Columbus, Ohio: Bureau of Business Research, The Ohio State University, 1956.

These categories, participative, supportive, and instrumental leadership are defined and exemplified as follows:

1. Instrumental leadership - behaviors which define roles and relationships, stress rules and regulations, schedule work to be done, stress standards of performance, and explain why tasks should be done.

2. Supportive leadership - behaviors which build interpersonal relationships, make it pleasant to be a member of the group, help others in overcoming problems, and facilitate change.

3. Participative leadership - behaviors which include working directly with others, listening to what subordinates say, asking for suggestions, and involvement of others in making decisions.

Yankee's principal ranked high on participative and supportive leadership and low on instrumental leadership. Dixie's principal exhibited high participative leadership, and also showed a high degree of supportive leadership and a moderate degree of instrumental leadership. Presidential's principal demonstrated a moderate degree of participative leadership, a high degree of instrumental leadership, and a moderate degree of supportive leadership.

Summary

In this chapter the data were presented and analyzed. The decision processes at each school were described, replete with examples, within the framework of four basic theoretical frameworks. All observed decisions were then compared and contrasted within and across schools, again in the framework of the four basic theoretical perspectives. Some unanticipated leadership variables which emerged from the study were also briefly described.

CHAPTER IV

A NEW MODEL, AN EXAMINATION OF THEORIES, AND IMPLICATIONS FOR PRACTICE

This chapter presents a model of decision making, examines decision-making theories using this model, and sets out some implications for practice in IGE schools. In the first section a new model is presented. This model is then used to examine the decision-making processes observed in the three schools. The second section compares and contrasts this new model with existing theories of decision making as described in chapter I. Some modifications of these theories are suggested. The final section of this chapter raises some questions about current decision practices in IGE schools in light of the observations made in this study, and poses several important questions for future research.

A Model of the Decision-Making Process

Decision making in the IICs and unit meetings of the schools observed fell into four basic steps:

1. Problem articulation
2. Alternative posing
3. Alternative weighing
4. Choice

These four steps form the basis for a definition of decision making as: a process wherein, influenced by group size, individual experience, and

group exhortation, a problem is articulated, alternative solutions are posed and weighed, and from which a precipitate solution is chosen. This process is illustrated graphically in Figure 6. Each of the four steps including the influencing factors are defined as follows:

Step 1--Problem Articulation

Initially, a problematic state is perceived by an individual or individuals resulting in the articulation of a problem through problem production and problem discussion. Problem production takes one of three forms: listing on the meeting agenda, an addition to the agenda, or a spontaneous addition to the meeting process. The meeting agenda is compiled by the principal for the IIC and the unit leader for the unit meetings. Problems which they are aware of or have been made aware of by unit leaders, staff, teachers, and sometimes others, respectively, are simply listed on the agenda. At the beginning and/or the end of the meetings, the principal and the unit leader may ask for additions to the agenda. Some problems may be identified during the meeting, occurring spontaneously as they arise in group members' minds, or as spin-offs of other decisions then under consideration. There may be a vocal group pressure, i.e. exhortation to articulate additional problems. The problem statement takes the form of a one-word or simple-phrase label of the problem. After the initial labeling of a problem, a very short discussion describing the parameters of the problem is held. This step may be omitted if all group members are familiar with the problem. This discussion may be restated by means of summary and/or clarification by the principal or unit leader.

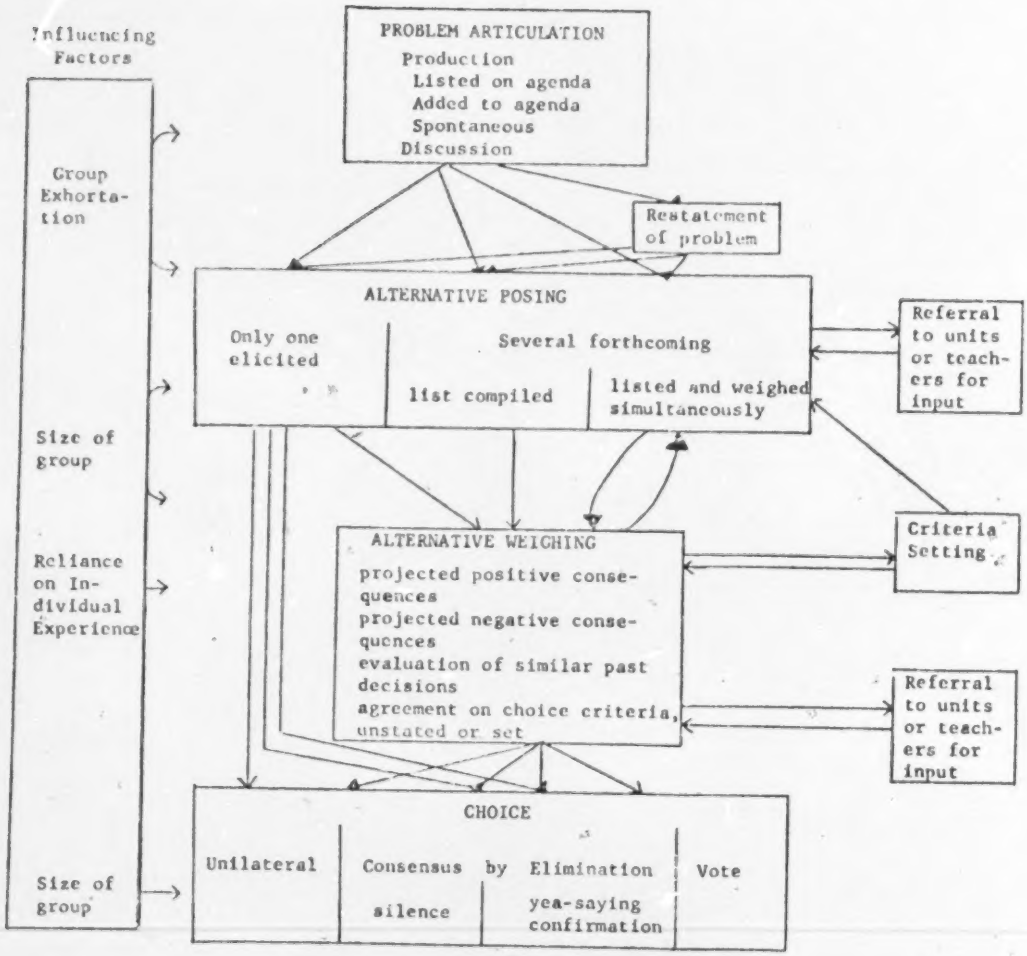

Figure 6: Model of the Decision-Making Process Observed in Schools.

Step 2--Alternative Posing

Alternative posing is broken into two basic modes depending on whether one or several alternatives are suggested. If only one alternative is elicited, an immediate choice may follow, either by immediate choice through consensus, by the principal in the IIC or the unit leader in the unit meeting making a unilateral decision, or the one alternative may be weighed in the next step of the decision process. If several alternatives are forthcoming, they may be simply listed, by the principal or unit leader first with others completing the list, or by all group members in juxaposition; or they may be alternatively listed and weighed with the next step of the process. The decision process may also be suspended with referral to the next lower level for input, and taken up again where it was suspended. Exhortation for participation and the size of the group tend to influence the number of alternatives forthcoming.

Step 3--Alternative Weighing

Intertwined with the process of alternative posing, or after the listing of alternatives is complete, alternatives are weighed. Group members offer projected positive and negative consequences of selecting and implementing each listed alternative. This is done on an alternative by alternative basis. If a similar decision has been made in the past in the experience of any group member, that member may relate his/her evaluation of that experience, either voluntarily or by request from less experienced group members. During this step, the need for

verbalization and/or determination of the criteria by which a choice is to be made also may surface, although criteria unstated may exist. Such criteria may be suggested by any group member. If there is group agreement on criteria, the process proceeds on to the next step, choice. If agreement does not exist, a nested decision process with the same steps as this entire process occurs, with the interjection of the decided-upon criteria back into the alternative posing and/or alternative weighing step.

Step 4--Choice

If choice is not referred (as defined below), it may be made unilaterally, by consensus, or by democratic vote. A unilaterial choice from one or several weighted or unweighted alternatives, may be made by the principal in the IIC or the unit leaders in the unit. Choice may also be made by consensus (as defined below). If only one alternative is posed, with or without the weighing step, it may be simply accepted by the group. If several alternatives are posed, as positive and negative consequences of each step are articulated, alternatives drop from consideration as the negative consequences are anticipated. After this precipitation process concludes, one alternative may remain, no alternative may be acceptable, or several alternatives may be left. Consensus is reached when only one alternative remains. This consensus is reached either in silent agreement, by gesture, or by yea-saying, that is verbalized agreement or repetition of the remaining positive alternative. When no acceptable alternative remains after the precipitation process, the choice may be referred to a later time or

to a lower organizational unit. When several alternatives remain after the weighing process, the choice may be likewise deferred, or a binding democratic vote may be taken. The number of persons in the decision-making group may force a coalition during voting. All choices are implemented outside of the decision-making setting.

Examination of the Model by School

Each of the three case schools followed the general model set forth in the preceeding section to a great degree, with varying degrees of emphasis on and between some steps. Influencing factors and variations particular to each school are also set forth in this section.

Yankee School

All groups at Yankee generally followed the model. A striking characteristic which set Yankee apart from the other schools was the rapid pace at which the decision process occurred. A large quantity of spontaneous alternatives was also generated in the alternative posing step in the IIC and in one of the units. Unless only one alternative was chosen by immediate consensus, a common pattern at Yankee, alternative posing and alternative weighing went on in juxaposition, the other prevalent pattern. Yankee's younger teachers often relied on the more experienced teachers to weigh alternatives. In the IIC and one unit, almost all decisions were reached by consensus. In other unit observed, about half of the decisions were reached by consensus, the other half by voting.

One variation of the model at Yankee was observed in one unit and characterized the behavior of that unit's leader in the IIC. He, and other members of his unit, would suggest alternatives which they already had weighed, usually in the evaluative light of negative past experiences and which they deemed non-appropriate choices. The negative aspects of these alternatives would usually be mentioned with the articulation of that alternative itself. Also at Yankee, in one decision process only, some attempt at evaluation of a decision after its implementation was observed. This evaluation, both with a progress evaluation and with reference to a set time for summative evaluation, was, with the exception of the spontaneous weighing of similar past decisions during the alternative weighing step, the only evaluation "step" observed in the study. The existence of this step had been anticipated prior to beginning observations. Finally at Yankee, the model also does not directly account for the effect of the physical proximity of unit members on the decision process, although this proximity may possibly be related to the high degree of group intimacy and thereby to the freedom with which past similar decisions with negative experiences attached were raised during the alternative weighing step.

Dixie School

All groups at Dixie similarly followed the model. Dixie's staff placed a continual emphasis on the need for every person to contribute to the problem articulation and alternative posing steps, the most notable feature of the decision-making process there. The comprehensive agendas developed for meetings also indicated a heavy stress

on the first step of the process. During the next step, alternative posing; Dixie's IIC referred the decision process to the units for input more frequently than the other two schools. While listing alternatives, the principal in the IIC or unit leader in the unit meeting usually went first, sometimes including consequences with each alternative. All group members then joined in, and steps two and three became intertwined. Dixie's younger teachers also often relied on the more experienced teachers to weigh alternatives. The effect of group size, only three in Dixie's units, forced voting behavior more frequently than consensus as the act of choice. After a choice was made, another notable characteristic of Dixie, very frequent confirmations and reconfirmations of that choice by group members were heard.

There were no significant variations from the model at Dixie.

Presidential School

Presidential also placed an intense pressure on the first step of the model, problem identification. After very brief comments intended to clarify the problem under consideration as a part of this first step, the principal in the IIC and the unit leaders in the unit meetings usually restated the problem before alternatives were posed. This additional step was a significant addition to the model, evident at Presidential school only. Individuals also placed pressure on one another to pose alternatives. Presidential's IIC, more often than the other two schools' IICs, referred decisions out when no acceptable alternatives remained after the alternative weighing step. At the

choice step, Presidential's principal made several unilateral decisions, again a heavier emphasis than in the other two schools.

Unique to Presidential was the questioning reference to goals during the alternative posing step. As this request went unmet, it goes undiagrammed. Two factors which may indirectly influence the decision process are the unilateral overruling of some decisions by the principal after choice was made, and several unilateral decisions made because the IIC was unable to finish its agenda. The nature and extent of their effect is unknown; therefore the model does not account for the data which imply the existence of these factors.

Examination of Existing Theories Using the Model

The decision-making literature was presented in Chapter I in four arbitrary sections: rational process, organizational structure, individual tracts and values, and group interaction. The basic theories and concepts explored in that review are examined in this section by comparison and contrast with the model presented earlier in this chapter. Some revisions and reexaminations of these theories are also suggested.

The Rational Process Perspective

The four steps of the above model of the observed decision-making processes are as follows:

1. Problem articulation
2. Alternative posing
3. Alternative weighing
4. Choice

These steps may be compared and contrasted with several other step-wise rational process models, such as that of Griffiths[1]:

1. Recognize, define and limit the problem
2. Analyze and evaluate the problem
3. Establish criteria of the solution
4. Collect data
5. Formulate alternatives
6. Implement the alternative chosen.

The above steps were observed not to be mutually exclusive, entirely existent, nor proceeding in order. Griffiths' step 1, "recognition" appears to be a private psychological act that was not observed. The present model then jumps to Griffiths' step five, then to his step 2 (with a side-trip to step 3 for some decisions). Griffiths also failed to look closely at the original research starting point for examining decision making, the act of choice itself. This deficiency, and the juxaposition of steps may have led others to expand, condense, amplify and otherwise confound the steps of the process.

Dill's[2] four steps were as follows:

1. Define goals and tasks and assign priorities for their completion
2. Find or invent alternatives and choose one for adoption, or postpone a choice
3. Clarify the meaning of a commitment, elaborate new tasks and motivate the people who will carry out the task
4. Evaluate the results.

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[1]Daniel E. Griffiths, "Administration as Decision-making," in Andrew Halpin, Ed., Administrative Theory in Education (Chicago: University of Chicago Midwest Administration Center, 1958), pp. 132-133.

[2]William R. Dill, "Decision Making," in The Sixty-third Yearbook of the National Society for the Study of Education (Chicago: The University of Chicago Press, 1964), p. 201.

The above steps go beyond what is represented in the new model. Some degree of goal setting had occured in the schools observed, but the relationship between these goals was not directly related to the decision-making process. Dill's third step, if it occurred, did so outside of the decision-making setting observed in the study. His fourth step occurred only in relation to the third step of the new model wherein a similar past decision is evaluated to predict consequences for an alternative under consideration. However, Dill's breaking out of alternative posing into "Finding or inventing alternatives", and his recognition that a choice may be postponed, represent a closer approximation of the more detailed alternative posing and alternative weighing steps of the new model.

Alkin's[3] expansion of Dill's evaluation step into progress and summary evaluations was seen in only one decision in one school. With the exception of informal evaluation of past similar decisions, the existence of and evaluation step as a part of the decision-making process was neither observed nor recorded. Perhaps the concept of evaluation, since it does not encompass any part of the decision-making process itself, should be conceptualized independently, since it may apply to a product such as goal attainment.

The Phi Delta Kappa's Committee on Evaluation[4] conceptualized

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[3]Marvin C. Alkin, "Evaluation Theory Development," Evaluation Comment, Center for the Study of Evaluation, University of California, Los Angeles, 2 (October, 1969).

[4]Phi Delta Kappa National Study Committee on Evaluation, Educational Evaluation and Decision Making (Itasca, IL: F. E. Peacock, 1971), p. 50.

decision making in four steps:

1. Becoming aware a decision is needed
2. Designing the decision situation
3. Choosing among alternatives
4. Acting upon the chosen alternative.

Similarly to evaluation above, acting upon the chosen alternative occurred outside the decision process, and might best be considered independently of the decision process itself. However, the Phi Delta Kappan model anticipated the interactive nature of the steps of the new model. It also predicted suboptimization and development of decision constraints, a factor, however, which were not observed in this study.

Lipham's[5] system-design for representing decision making most closely approximates congruence with the new model developed in this study. The five steps of his system design are as follows:

1. Identifying the nature of the problem
2. Determining alternatives
3. Choosing a solution strategy
4. Implementing the solution strategy
5. Determining effectiveness.

The above model, when compared to the new one developed in this study, suffers from the same defects attributed to other theories described above. The first three steps are unspecific, the fourth occurs outside the decision-making setting, and the fifth lacks an observed behavioral referent. Lipham's model (see Figure 5) does approximate more closely the new model conceptualized in the study. The first two steps,

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[5] James M. Lipham, "Improving the Decision-making Skills of the Principal," in Jack A. Culbertson, Curtis Henson, and Ruel Morrison, eds., Performance Objectives for School Principals (Berkely, CA: McCutchan, 1974).

(1) Identify the problematic state of the system, and (2) Classify and define the problem correspond to the first step of this new model. The model's second and third steps, and the sometimes interaction between these two steps, is largely represented in the step in Lipham's model, "Formulate and weigh alternatives". The new model more precisely defines several types of relationship between these two steps, as well as clarifying the steps themselves. Choice is likewise broken out into several modes. Referred decisions and criteria setting for weighing decisions, dropped from the earlier step-wise processes, are included. Lipham's model also includes implementation and evaluation steps. These too occurred once more outside the observed decision-making setting.

Lipham's model indicated an influencing effect of the amount, form, and flow of information to the decision maker; the effect of values on the decision-maker and on the formulation and weighing of decision alternatives; and the effect of individual variables comprising the perceptual screen of the decision-maker. These influencing factors and the steps of the decision process they effect are identified specifically in the new model.

In essence, the new model set forth in the study clearly defines and delimits the steps of the decision-making process and describes the interaction of these steps; and it focuses on factors which influence the process occurring in each step, but which are not a part of the construct of the step itself.

The Organizational Structure Perspective

Three of the initial concepts with which observation began were Hage's[6] concepts of centralization, formalization, and stratification. Each of these concepts will be described as observed. They do not relate directly to the model presented in the first section of this chapter.

Centralization is usually most simply defined by stating that the more persons who participate in decision making and the more decision areas involved, the greater the degree of decentralization. Implicit in this definition is that at lower levels of the organization more persons will always be involved. However, the individual teacher was at the lowest organizational level of the IGE schools observed. This teacher made some decisions alone. The unit level decision, one step up, involved more persons. Some individual decisions, such as classroom grouping, usually the prerogative of the individual teacher in the non-IGE school, actually become more centralized in the IGE school. On the other hand, most of the decisions examined in this study, which would fall within the realm of the principal in the non-IGE school, were decentralized to the IIC and/or the unit level. Therefore, the IGE school paradoxically becomes more centralized and more decentralized at the same time. Since no factoring was done in this study for decision content, the effect of this factor is unknown.

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[6]Jerald Hage, "An Axiomatic Theory of Organizations," Administrative Science Quarterly, 10 (1965), pp. 289-320.

The concept of formalization appears unrelated to the decision process, except that one of the role expectations is to take part in shared decision making. In the two schools where there was pressure to contribute to problem articulation and/or alternative posing, the inference of strong internalization of this aspect of each person's role might be made.

The role of the unit leader stratifies the IGE school more than the non-IGE school. In two units an additional layer of stratification was found between the older, more experienced teachers and the newer teachers. The older teachers were relied upon for their judgment when alternative weighing was proceeding. This factor influenced one step of the decision process. The concept of stratification seems of use only in a descriptive manner.

The meager findings in the area of organizational structures serve to reinforce Gramenz[7] suggestion:

> Hage's axiomatic theory of organization be reexamined and/or reconceptualized before being used in research pertaining to educational institutions.

The Individual Traits and Values Perspective

Examination of the data of this study using the concepts of individual traits and values added little insight into understanding the decision process. Individual traits, such as age and sex, had no direct impact on the decision process. Only age as correlated with

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[7]Gary W. Gramenz, "Relationship of Principal Leader Behavior and Organizational Structure of the IGE/MUS-E to I and R Unit Effectiveness," Doctoral Dissertation, University of Wisconsin, 1974.

experience appeared to have any effect. Younger teachers granted deference to older teachers, trusting their judgment when alternatives were being weighted. This finding is consistent with Birren's[8] findings that strategies for successful dealing with major decisions appear to evolve with age.

A commonality of certain values existed in the data base of the study across all schools--particularly hard work and honesty. Other shared values included: openness, the security to admit past failure, and a group elitism. While these values may be intuited to relate to the model, no direct connection is evident from analysis of the data of this study.

The Group Interaction Perspective

An examination of the model as it relates to group interaction variables also adds little insight into understanding the decision process. The size of the group, certain group pressures, and a rough parallel with a categorization of modes to resolve conflict emerge from the data as concepts which can be related to the decision process.

Maier's[9] inclusion of the greater sum of total knowledge and information, and the greater number of approaches to a problem as some

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[8] James E. Birren, "Age and Decision Strategies," in A. T. Weilford and James E. Birren, eds., Decision Making and Age (Basel, Switzerland: S. Karger, 1969), p. 36.

[9] N. R. F. Maier, "Assets and Liabilities in Group Problem Solving, the Need for an Integrative Function," Psychological Review, 74 (1967), pp. 239-249.

of the assets of group decision making was exemplified in the study, although in an inverse manner. When the number of a group dropped below four, alternative posing and alternative weighing did not produce as many options and projections as with a larger group. This same small group showed an increased tendency to use the voting mode during the choice step, often because only two alternatives were forthcoming and no one was willing to change their position.

Lowin's[10] finding that group decision making causes a pressure for careful consideration of decisions may be broken out further into the two pressures evident in decision processes in this study, exhortation to articulate problems and pressure to contribute alternatives toward its solution.

As no decisions were observed regarding goal setting, the McGivney-Bowles[11] model was not directly applicable to this study. However, the three modes by which choices were made, consensus, vote, and unilateral, roughly parallel the McGivney-Bowles modes of rational search and persuasion, bargaining and power play, and power play with their resulting degrees of agreement, consensus and cooperation, coalition and conflict, and conflict.

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[10] Aaron Lowin, "Participative Decision Making: A Model, Literature, Critique, and Prescriptions for Research," Organizational Behavior and Human Performance, 3 (1968), pp. 68-106.

[11] Joseph H. McGivney and B. Dean Bowles, "The Political Aspects of PPBS," Planning and Changing, III (April, 1972).

Implications for Practice and/or Research

The main purpose of an exploratory field study is more to raise questions than to draw conclusions. Several potent questions are raised by examination of the model and the data from which it was derived. This section of the last chapter is usually broken into implications for future research and implications for practice. Since the resources for research are so small and the needs of the practitioner are so immediate, and since the two should ideally overlap, implications for both are presented together here as questions:

1) Is the presented decision model applicable to all types of decision content items? If not, can it be adapted?
2) Should certain decision content cause more time to be spent on certain steps of the model? Which content? Which steps?
3) Are there different typical paths through the model required by different decision content, by IICs vs. unit, and in newly implemented schools vs. experienced IGE schools?
4) Criteria for weighing decision alternatives often went unstated but were assumed. Is the criterion, equal sharing of work, always the most effective and efficient division of responsibilities?
5) The observed decision process in successful IGE schools had no provision for monitoring implementation of the decision choice or for evaluation of the decision process itself, a significant

departure from existence intuited decision processes. Are these steps necessary?

6) In the IGE school, there is a loss of some traditional decision-making prerogatives of the individual teacher. What is the effect of that loss of participation in shared decision making on these decision items? For other decision content? On teacher morale and effectiveness?

7) What is the ideal size for IICs and units as size impacts on decision making? Is three too small? What number becomes unwieldy?

8) What is the appropriate degree of group pressure to assure participation in shared decision making?

9) Do principals realize the power of the unit leaders' modeling their behavior?

10) Can involvement in the model for decision making be quantified and related to teacher effectiveness, teacher morale, pupil achievement, organizational climate, adaptiveness, motivation, unit effectiveness, and other outcome measures?

Summary

This chapter presented a new model of decision making and examined the interrelationships of its steps in some detail. Attention was then given to its "fit" with the data from the three case schools. Selected existent intuited decision theories and concepts were examined through comparisons with the new model. Finally, some questions raised by this study of import to practioners and researchers were asked.

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